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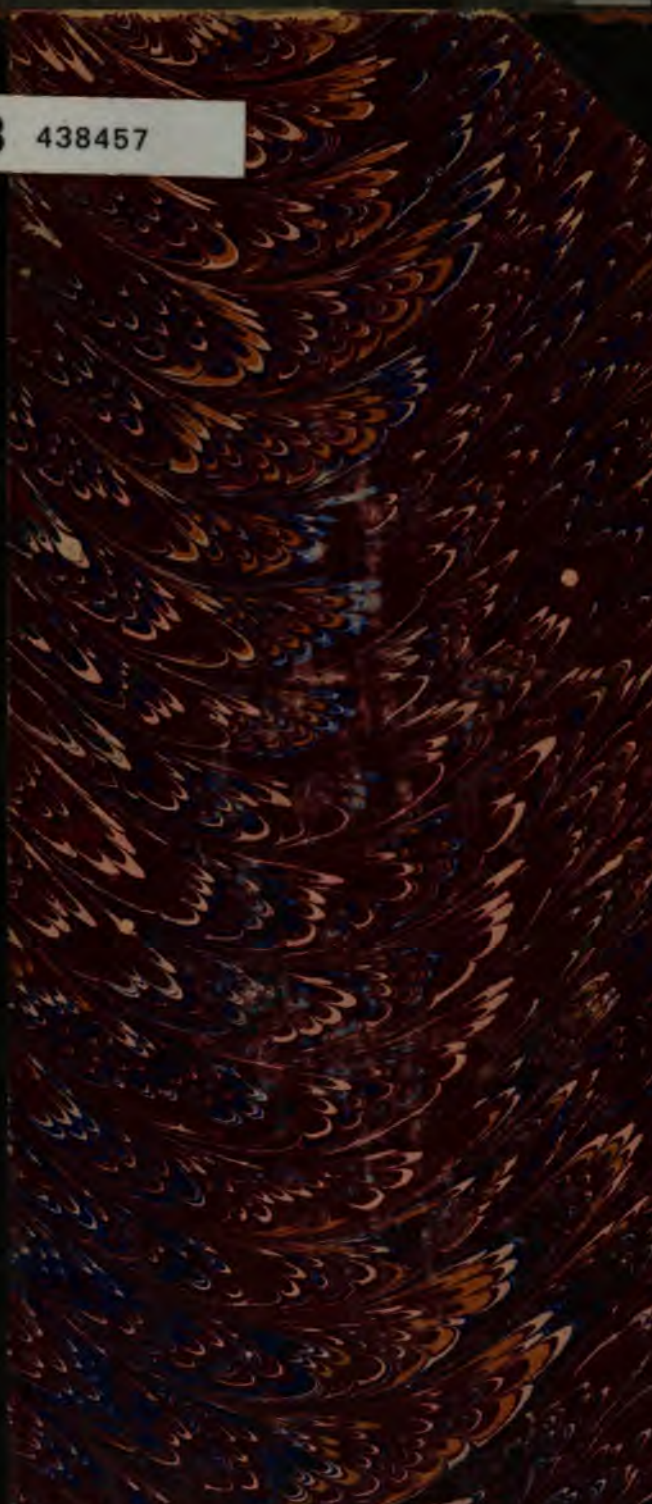
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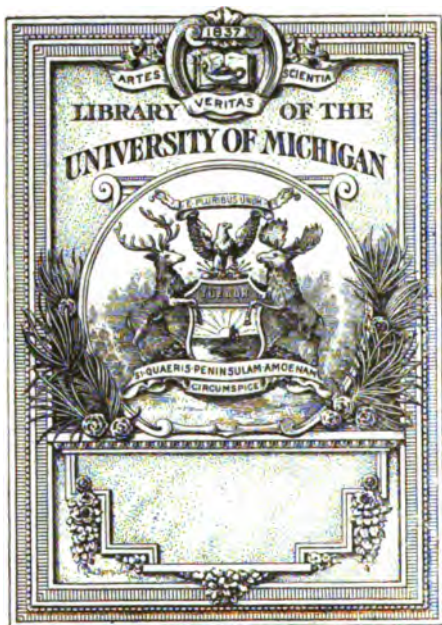
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BUREAU OF STATISTICS

No. 292

MONTHLY CONSULAR REPORTS

JANUARY, 1905



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No. 292.

FRENCH TARIFF CHANGES.

(From United States Consul Thackara, Havre, France.)

The following tariff rates are assessed per 100 kilograms (220.46 pounds) on the net weight, unless otherwise stated.

By a French treasury circular, dated February 27, 1904, acetanilide (antifebrine) is classed under the head of chemical products derived from the distillation of coal, No. 280, paragraph 2, the duties on which are, maximum 20 francs (\$3.86), minimum 15 francs (\$2.895).

By the provisions of a law dated July 5, 1904, sugar polarizing less than 95°, and sirups from centrifugal machines, when used for fattening cattle, are exempt from all taxes after they have been rendered unfit for ordinary uses (dénaturé) in the factories in which they are manufactured. On the same date another law was promulgated exempting from taxes sugar and sirups, after being denaturalized, which are employed for beer-making purposes.

By a law dated July 20 last a number of changes were made in the customs duties on clock and other movements imported into France:

Movements of pendulum and spring clocks, alarm clocks, mechanical toys, telegraphic instruments, and, in general, all clock movements other than those used in watches, complete or incomplete, with or without motors, whether gilded, silvered, or nickled, maximum, 200 francs (\$38.60); minimum, 125 francs (\$24.125). Detached pieces, such as wheels, cogs, etc., not assembled, pay duty as accessories. The old tariff rates were 100 francs (\$19.30) and 75 francs (\$14.475), respectively.

Clocks, whatever may be the motive power, including wood and alarm clocks of all kinds, with or without music, maximum, 200 francs (\$38.60); minimum, 125 francs (\$24.125). On the cage or covering of clocks the duty is according to the material of which it is made. The custom-house declaration should state separately the weight of the mechanism and that of the cage or covering. Alarm clocks pay duty

on their total weight. The duties on the weights and chains of wood clocks are, maximum, 45 francs (\$8.685); minimum, 38 francs (\$7.33).

Meters for electricity, water, gas, spinning machines, and in general all meters, counters, or apparatus containing clock movements, including automatic distributors, maximum, 100 francs (\$19.30); minimum, 75 francs (\$14.475). There is no change in this rate, the articles embraced in the category being merely specified.

Watch and clock making accessories, except those made of precious metals and aluminum—Maximum, 200 francs (\$38.60); minimum, 120 francs (\$23.16). Formerly the tariff rates were 80 francs (\$15.44) and 50 francs (\$9.65), respectively.

A. M. THACKARA, *Consul*.

HAVRE FRANCE, *November 10, 1904.*

SISAL HEMP IN QUEENSLAND.

(From United States Consul Goding, Newcastle, New South Wales.)

Experimental plantings of sisal hemp are being made in a number of places in southern and central Queensland in anticipation of its future profitableness as a by-crop. Some of these experimental plats are being planted by the government to ascertain what are the best localities of soil and climate for its successful cultivation. The suckers require three or four years to mature, but after that, once or twice a year, a large amount of leafage containing the fiber can be gathered for a period of over ten or twelve years. Land comparatively useless for other purposes can be utilized for growing it. It is said to thrive well in rocky, volcanic soil, on hilly slopes, amid blocks of stone and heaps of boulders and tufts of grass and weeds—places unfit for the plow and the growth of cereal and other vegetable products. It needs but a slight rainfall, a warm summer, and no severe winter frosts.

In 1893 the agricultural department obtained 1,000 plants from Yucatan. These plants were distributed, some being placed in nurseries on Frasers Island, on St. Helena, and other government settlements; but the only place where it has passed beyond the experimental stage is at the penal establishment at St. Helena. There some fine specimens of the hemp fiber have been produced by hand labor. Some very large plants with splendid leafage have been grown, and the stripping has been successfully done. The government is importing the necessary machinery to further the industry there and further its establishment elsewhere.

A large amount of hemp is imported every year by the Victorian rope and twine manufacturers, and in manufactured form for general uses. No less than 9,000 tons of binder twine are used upon the

Australian harvest fields annually. From \$155.72 to \$170.32 per ton can be obtained for the fiber now, and the markets in other countries are not at all glutted. The crop of sisal exported this year brought, on the average, over \$195 per ton.

F. W. GODING, *Consul*.

NEWCASTLE, NEW SOUTH WALES, *October 14, 1904.*

MEXICAN NOTES.

• (From United States Consul Canada, Veracruz, Mexico.)

Mexican silver pesos dutiable.—The Mexican Government has decreed and made public in the Official Gazette of November 23, 1904, that the Mexican silver peso, when imported in quantities greater than 5 single dollar pieces, shall pay duty at the rate of \$10 per kilo, bruto (2.2046 pounds gross weight). The law will take effect after midnight of December 31, 1904.

Taxation of traveling salesmen.—By a recent amendment to the law taxing traveling salesmen in the State of Tabasco, Mexico, all representatives of foreign business houses will have to pay a license fee of \$10, and those of local business men, \$5. The license must be obtained before any business can be done, in default of which a fine of \$2 will be imposed for every day until such license is secured. All buyers of goods from unlicensed salesmen are subject to the same fine.

Notices to mariners.—As the remaining parts of the wrecked bark *Gandall*, so long an obstacle to navigation on the anchorage ground of Progreso, have disappeared, the buoy marking said wreck has been removed.

Having suffered considerable damage, the light buoys marking the entrance to the harbor of Tampico, Tamaulipas, on the reefs to the north and south of the river Panuco, have been discontinued.

A new textile plant.—Another textile plant has recently been discovered in Yucatan by Señor Lopez Pompeyo. Its native name is "chirinilla;" its leaves are a light green in color and attain a length of more than 1 meter (3.28 feet) in twelve months from date of planting; it produces a white flower. Its propagation is easy by its bulbous roots. Mr. Lopez Pompeyo has made many tests of the plant, with the result that 1,000 leaves produce 10 pounds of clean fiber. A patch of land measuring 4 meters square gave 600 leaves, on which he made his experiments. The fiber is pronounced to be fully equal in quality to the benequen or sisal fiber, and is more quickly and more cheaply produced.

WM. W. CANADA, *Consul*.

VERACRUZ, MEXICO, *November 30, 1904.*

QUEENSLAND AGRICULTURAL LANDS.

(From United States Consul Goding, Newcastle, New South Wales.)

The entire area held under the several land acts by pastoral tenure and occupation license in 1903 was 401,258 square miles, at an established rental of \$1,469,785, which is a little over \$3.64 to the square mile. But the area and the rental were less than in the preceding year by 15,250 square miles and \$64,948. Some of the runs were forfeited and others abandoned. An extension of time for the payment of rents, owing to the calamitous seasons, was granted in September, and out of the amount of \$1,458,977 then due it is satisfactory to note that \$1,323,508 has since been paid. Applications were made for a new classification, under the 1902 act, of 479 runs held under the act of 1869, 680 holdings under the act of 1884, 15 holdings under the act of 1897, 30 consolidated holdings under the act of 1900, 2 occupation leases, and 70 forfeited runs; but as the time when the pastoral lessees could elect to accept the new classifications did not expire till the end of July, 1904, an estimate can scarcely be formed of the financial results of the operations under this act. Some of the provisions of the old acts will quickly become obsolete, and a large portion of the pastoral areas will be held under new stipulations. Notices were given for resumption of land from pastoral holdings for closer settlement in the Burke, Burnett, Darling Downs, Leichardt, Maranea, Mitchell, and Warrege districts, totaling altogether over 2,283 square miles, and the land court decided not to classify several holdings in the Burnett and Darling Downs districts in view of the present and probable future demand for land for agricultural and dairying purposes.

The area taken up during the year was not equal to that in the previous one. There was less land selected in every branch except scrub selection. The weather conditions were most favorable, but there was less stock, and this naturally lessened the demand for land. Good land, suitable for either agricultural or grazing purposes, was in many instances readily taken up, even at high rates, but the general demand was not great.

An account is given of the operations of the agricultural land purchase act and how it has conduced to bona fide settlement. Out of 20 estates purchased by the Government, 53,000 acres have been sold and are now under cultivation, and the value of the improvements on the settlements is estimated at \$1,074,995; but more could doubtless be done to encourage land selection.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *October 12, 1904.*

GOLD MINING IN NICARAGUA.

(From United States Consul Hill, San Juan del Norte, Nicaragua.)

There is considerable activity among the mine operators north of Bluefields in the installation of new machinery and the application of modern methods, which promises to increase greatly the output of gold in this region.

The Bonanza and Lone Star mines in the Tunkey district are adding cyanide plants for the extraction of gold from "tailings." These are expected to be in operation by the end of the year. It is estimated that 50 per cent of the gold is lost in the "tailings," and it is believed that this process will save 70 per cent of what has heretofore been thrown away.

The Siempre Viva Mining Company is installing an electrical plant, to be run by water power from Pizpiz Falls, for the operation of the mill and working of the mines as well as the cyanide process, the total expense being \$100,000.

The Constance, near the Siempre Viva mines, is just completing a 10-stamp mill, which will shortly be in operation. The La Luz and Los Angeles mines, in the Cuicuina district, are expending \$30,000 in developing their water power and in other improvements. These properties are in active operation and so far have been paying well.

The Topaz Mining Company, in the Mico district, above Rama, also intends installing cyanide and electrical plants. The placer mines in Cuicuina district are making a good showing, and there is every prospect that by the end of another year the eastern coast of Nicaragua will produce a noteworthy output of gold.

JOHN TODD HILL, *Consul.*

SAN JUAN DEL NORTE, NICARAGUA, *November 9, 1904.*

MEXICAN SUBSTITUTE FOR RUBBER.

(From United States Consul Le Roy, Durango, Mexico.)

It has been known for some years that a shrub called the guayule, which grows on the arid northern plateau of Mexico, renders an extract possessing the appearance and qualities of rubber. Either because sufficient attention has not been drawn to it, or because of failure to find a satisfactory process for extraction, nothing worthy of mention has hitherto been done with this plant, which is found growing particularly in the eastern part of Durango State, along the Mexican International Railroad. Within the past two years New York rubber manufacturers have developed a process for the utilization of the plant. Under the name of the Anglo-American Company, they have obtained a concession from the State of Coahuila and are about to build a factory

for the extraction of rubber from the guayule at Torreon. Plans for the factory are completed, but the contract for its erection has not been awarded. The new Mexican company is understood to be associated with the Continental Rubber Company of New York.

JAMES A. LE ROY, *Consul*.

DURANGO, MEXICO, *November 28, 1904.*

FIRE PROTECTION IN GERMAN THEATERS.

(*From United States Consul Liefeld, Freiburg, Germany.*)

The Berlin police authorities have ordered that the following rules, containing instructions to the public as to how to act in case of fire, shall be displayed in illuminated letters between the acts on the drop curtains of the Berlin theaters:

(1) Leave the theater quietly; (2) proceed to the nearest exit; (3) do not scream and do not push; (4) do not stop at the cloakroom as you go out; (5) do not stand about near the exits; (6) obey all the orders of the theater attendants.

Among the precautions taken at Freiburg since the terrible Iroquois disaster at Chicago last December, are: An extra corps of firemen and police has been stationed all over the opera house during each performance; the public is requested to make itself familiar with all exits; and the large iron curtain is lowered during each long pause so that the audience can have ocular proof and demonstration that the main curtain is in good and proper working condition.

E. THEOPHILUS LIEFELD, *Consul*.

FREIBURG, BADEN, GERMANY, *November 7, 1904.*

TRADE OPENINGS IN VENICE.

(*From United States Consul Bliss, Venice, Italy.*)

GENERAL COMMERCE.

The imports into Venice in 1903 amounted to \$79,276,450, an increase of something more than 14 per cent as compared with 1902; the exports from Venice in 1903 amounted to \$58,356,494, an increase of a little less than 10 per cent as compared with 1902.

The relative positions of the various articles comprising the imports remain as in recent years, cereals, textile fabrics, cotton, oils, fuels, metals, spirits, and wines being the most important. All of these, with the exception of textile fabrics, fuels, and spirits, show material increases, especially cotton, the imports of which nearly doubled in value.

The largest exports are cereals, textile fabrics, and cotton; these, however, may be classed as reexports, Venice being their forwarding and intermediate port for other countries, and for other districts of

Italy. Glassware, including beads and mosaics, is an important export, and its manufacture is a purely Venetian industry of world-wide fame. Unfortunately for the reputation of Venetian glass, not a little Bohemian ware is sold in Venice as a product of the local furnaces.

The petroleum imports during the year, according to the statistics published by the Venetian chamber of commerce, were \$30,388 greater than in 1902. The imports from the United States, on the other hand, have fallen below those of 1902 (\$736,498) by \$219,415.01. On the authority of the manager of the Italo-American Petroleum Company, of Venice, it may be said that the imports of petroleum from the United States in 1904 have returned to their normal level, and that the falling off in 1903 was due mainly to temporary conditions in the United States. Through this gentleman's courtesy it is possible to state that in 1903 there were imported into Venice from Russia 98,430 barrels of petroleum, valued at \$174,607, and from the United States 78,540 barrels, valued at \$234,060, thus showing greater sales by the United States to the amount of \$59,453.65 during a dull year.

SHIPPING RETURNS.

There were 340 more entrances and 127 more clearances of sailing vessels in 1903 than in 1902. The number of steamers entered and cleared in 1903 was slightly less than in 1902, but their tonnage shows an increase of 119,303 tons entered and 125,801 tons cleared. The total tonnage of all vessels entering the port in 1903 was 1,613,031, an increase of 131,929 tons over 1902; the total tonnage of vessels clearing was 1,619,215, an increase of 134,846 tons. The number of bills of health issued to vessels clearing for United States ports was 38, the largest since the establishment of the consulate.

FREIGHT RATES.

Freight rates between Venice and New York, as given by steamship agents here, are as follows:

New York to Venice: Cotton-seed oil and mineral oil, 85 cents per barrel; paraffin wax, \$4.26 per ton; sulphate of copper, grease, and lard, \$3.65 per ton.

Venice to New York: Hemp, in compressed bales, \$5.10 per ton; argols, in bags, \$3.41 per ton; furniture, marbles, and glassware, \$4.38 per ton; marble blocks, \$4.87 per ton.

IMPORTS FROM THE UNITED STATES.

The imports from the United States in 1903 amounted to \$5,262,549, an increase of \$1,085,604, or nearly 25 per cent, over the value of imports in 1902. This gain was in cotton alone, and is not so flattering, therefore, as if there had been an increase all along the line. With the exception of candles, the bulk of American imports are raw materials; practically no manufactured goods come from the United States.

Value of principal imports into Venice from the United States in 1903.

Article.	Value.	Article.	Value.
Cotton	\$3,152,901	Sulphate of cotton	\$111,809
Petroleum	517,083	Tallow	104,614
Manure	497,071	Turpentine	70,302
Candles	467,909		
Oils	340,859	Total	5,262,548

EXPORTS TO THE UNITED STATES.

The exports declared at this consulate in 1903 amounted to \$657,652, an increase over 1902 of \$25,324. As in years past, hemp was the most important export, although the value fell below that in 1902 by \$96,458. It, however, promises to reach normal figures in 1904, as the shipments up to July 1 nearly equaled those for the entire twelve months of 1903. It does not seem amiss to point out that nearly all the hemp business of Venetia with the United States is in the hands of English firms, many of the consignments going first to Liverpool for reshipment. This is a trade which might be acquired by Americans, thus saving themselves the third man's commissions.

As predicted in last year's report, the exportation of glass beads reached a figure never before attained, namely, \$139,576; this year the traffic has practically ceased, and Venetian firms report that they are receiving no more orders from the United States, which is no doubt due to an overstocked market. Crude glycerin, lace stuffs, embroideries, and carved and rough stone also show gains.

Unless the shipments of hemp should reach an unusually high figure, the probabilities are that the declared exports for 1904 will fall below those of 1903. With but few exceptions, articles sent to the United States from Venice are those of luxury rather than of necessity, and local merchants say that American travelers are this year making but few purchases and those not large.

MARKET FOR AMERICAN GOODS.

Besides electrical appliances, for which there is a large opening,^a there is an excellent opportunity for the sale of good and cheap motor launches. In the past year there has been formed here the Venetian Nautical Automobile Society, which has a boathouse, and already a number of launches, which may be hired by the hour or day. To many persons who come to Venice an afternoon's sail about the lagoons and a visit to picturesque island towns is a pleasant one which can not be taken in a gondola, as too much time is required from the few days usually devoted to the city's art and architecture. The popular excursion to Chioggia, now made in a small crowded steamer taking two hours each way for the trip, would be more desirable to a family or party of friends if they had their own boat. These are but two of

^aSee separate report entitled "Improvements in Venice" (page 61).

the many delightful excursions possible to make in a launch, and are mentioned merely to show that it is not alone the resident population that creates a demand for launches. Venetian families are beginning to have their private motor boats, and others will buy when the right one is produced. This is a comparatively new field in Venice and in other ports of the Kingdom, and if the American will show his usual home energy in Italy he can be among the first on the ground. Should some manufacturer, or combination of boat builders, send an Italian-speaking agent or salesman with several sample launches to Venice, the results would in all probability be satisfactory.

Early last spring I induced a Venetian gentleman to write to several American manufacturers of steam launches and motor boats to request that one sample launch be sent him, when he would endeavor to introduce the special make here. He offered to deposit with a bank in Venice more than enough to cover the cost of the launch, but in case he was unable to sell within a reasonable time he was desirous of returning the craft to the makers, paying an agreed percentage for wear and tear. This gentleman was able to furnish the highest references as to his reliability. In every case but one (where he was referred to an agent at Genoa) the only terms to which the firms would listen were full payment free on board at New York. And thus a good opportunity was lost.

Venetia is essentially an agricultural country and requires farm implements and machinery. The writer has seen immigrants returning from the United States bringing with them picks and spades. One presumes, naturally, that this is because of the superiority of these articles and demonstrates that the Italian is appreciative of the implements made in the United States. Locks and hardware would also find a sale in this region. Good, easy-working revolving desk chairs are most difficult to find, and to have one made to order costs about four times the price of such articles in New York.

ART EXPOSITION.

The sixth international art exposition will be held in 1905, from April 22 to October 31. The increasing importance of this exposition and the high class of art shown attract many visitors. It should be more patronized by American artists than it is. The rules governing the admission of paintings will be gladly furnished on application to the administrator of the exposition or to this consulate.

HOW TO EXTEND AMERICAN TRADE.

Should the manufacturers and dealers of the United States take the trouble to glance at the reports for the past twenty-five years from the different American consular officers in Italy they would find but few in which the writers have not energetically urged the adoption by Americans of the business methods which have brought successful

results to other nations. It is surprising that our manufacturers have paid so little attention to the advice of those who, being on the ground, were capable of judging of the requirements for the extension of our trade.

It is of no avail to send catalogues here, for the Italian merchant will not buy an article from seeing an illustration, especially when the price is stated in dollars and the weight in avoirdupois pounds; nor will he pay for it free on board at the port of origin, assuming all the risks of importation. American articles to be successfully introduced will have to be offered for sale by men competent to explain, by means of samples, the advantages of their particular line of goods; men who can make personal demonstration of the superiority of the American product, who are in the position to quote prices in a currency intelligible to the prospective buyer, and under conditions of payment and delivery which are customary in the locality. No other procedure will give a steady and satisfactory result.

Venice is not a large city, nor does the market it and the province of Venetia offer justify the establishment here of agencies. But Italy, with its improved and rapidly advancing economic condition, does present the greatest inducement to American dealers wishing to extend their foreign trade. If Italy offers a market, it would unquestionably be worth while to establish agencies at the commercial center of the Kingdom, and Milan, the city commercially most advanced, suggests itself as the seat of such agencies. Where one firm could not undertake the expenditure necessary for the establishment of an agency, a combination of a number of dealers with one agency would soon bring in for each member a handsome return on his share of the outlay. These agencies, with a small force of salesmen traveling about the country, could study the immediate wants of the people, cater directly to their tastes, and anticipate with ready goods the demands of general or special occasions. The writer can but insist that knowledge of local conditions is essential to successful trade, and he urgently suggests that the most effective way of obtaining this end is the establishment of central agencies by individual firms or combinations of exporters to work over the entire Kingdom of Italy.

ROBERT WOODS BLISS, *Consul.*

VENICE, ITALY, *November 2, 1904.*

FOREIGN AND NATIVE TOBACCO IN CHINA.

(From *United States Consul Anderson, Hangchau, China.*)

The tobacco trade of China at the present time is in a critical stage and needs to be watched by American interests. Because of the comparatively large sum of money expended for tobacco in its several forms, the Chinese authorities have naturally turned their attention to the trade with a view of keeping as much of it as possible at home.

It is a well-known fact that they are attempting to bring more land under cultivation in tobacco, and that they are succeeding in their attempt to supplant the foreign product. The increasing purchasing power of the Chinese people is likely to be shown as quickly in tobacco as in anything else. There are a number of changes in the course of the tobacco trade in China in the past three years or so which merit special attention.

Quantity and value of imports of foreign and Chinese tobacco at Hangchow, China, in 1901, 1902, and 1903.

Kind.	1901.		1902.		1903.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
FOREIGN.						
Stalk.....	<i>Pounds.</i> 30,667	\$302	<i>Pounds.</i> 26,000	\$398	<i>Pounds.</i>	
Prepared.....	4,400	393				
Cigars and cigarettes.....		10,523		10,991		\$10,310
Total.....		11,218		11,389		10,310
CHINESE.						
Leaf.....	1,560,606	98,388	766,000	48,265	426,534	21,275
Prepared.....	2,076,667	185,340	2,015,467	179,853	1,979,408	252,811
Stalk.....	484,800	4,972	472,667	5,183	472,267	5,075
Total.....	4,122,073	288,700	3,254,134	233,291	2,878,209	279,161

These figures, of course, cover only the trade of this port and the country tributary to it. It must also be remembered in this connection that the differences between the customs and likin systems offer opportunities for deductions which are not really warranted. However, it is probable that one or two facts may be taken from the figures for these years as pretty thoroughly established. The decrease in the total weight of tobacco brought to this port from other portions of the Empire, while the value of the amount thus brought in remains about the same, indicates a decided bettering in the quality of the Chinese tobacco purchased. The average price of the gross amount imported in 1901 was a fraction over 7 cents per pound; in 1902 it was 7.1 cents per pound, and the average price in 1903 was 9.7 cents per pound. The fact that the amount of stalk tobacco bought in the three years remains about the same, and at about the same price, may reasonably be taken as indicating the decided change in the tobacco trade.

It will be noticed that the figures on the importation of foreign tobacco do not promise much for American tobacco interests. This, however, is not to be taken as indicating too much. The importation of foreign stalk and prepared tobacco has ceased altogether. Generally speaking, the figures and other facts indicate that the Chinese are commencing to improve their grades of tobacco and their methods of handling it. The cigarette factory at Shanghai, now owned very largely by Americans, has much to do with the change. This enterprise is likely to have large influence on the tobacco business in China.

At present it is using American tobacco to a great extent, but expert American tobacco men are here with the purpose of adapting Chinese tobacco to its use by treatment of the leaf to remove some of the rank qualities. The change which is likely to come in a short time will be important. The concern which controls the foreign tobacco trade in China (the British-American Tobacco Company) last year imported about \$4,000,000 Mexican (about \$1,850,000 gold) worth of tobacco and tobacco goods. Some of this came from Japan, probably about \$100,000 worth gold, but most of it came from the United States. Now that the Japanese Government has taken over the tobacco business in Japan as a monopoly, the importation from that country into China for the time being has practically stopped.

The supplanting of the American product by native tobacco, therefore, will cut into the trade of the United States more than it will into that of any other nation. The immense increase in the use of the better grades of tobacco in China, however, is likely to relieve the situation to a great extent. Possibly this increase and the increased buying power of the Chinese generally will result in a considerable increase in the use of American goods in spite of the proportionate loss. The importation of cigars and high-grade tobaccos from the Philippines into the parts of China frequented by foreigners is satisfactory in volume and constantly increasing. It can be further increased by reasonable effort. When once the Chinese are able to buy American tobacco products they will probably furnish a steady demand for them, but until their purchasing power is materially increased the demand will be for low-grade goods at the cheapest price possible.

As stated heretofore, the officials of the several provinces are alive to the need of saving as much of the tobacco trade to China as possible, and are giving every encouragement practicable to Chinese farmers who raise the tobacco plants. Chinese farmers have a number of advantages in this connection. In line with their usual intensive methods of culture, they are accustomed to plant tobacco in their mulberry groves. The stripping of the leaves from the trees for the silkworms gives the tobacco plants the light they need when they need it, and later the shade of the trees affords them protection when it is required. All Chinese culture is intensive and the tobacco plants are treated with the fertilizers peculiar to China.

The tobacco grown is rank in quality and would be rated very low in American markets, but it supplies the Chinese consumer with a product within his reach financially, and this is the chief thing to be regarded in the tobacco or any other trade in the Far East. Methods of treatment of the tobacco plant are crude and are not such as to improve the product. The vast bulk of the prepared tobacco is fine cut, made by pressing a quantity of the tobacco leaves together and planing off the edges with a tool much like a carpenter's plane. The use of cigarettes is increasing.

The amount of tobacco used in China is enormous. Most of it is produced by the consumers or in the immediate vicinity of where it is consumed, and does not get into the trade reports at all. The foreign tobacco trade has scarcely scratched the surface of the field. Whether the improvement in the Chinese methods of cultivating and caring for tobacco plants and products will eventually shut out the cheaper grades of goods from abroad remains to be seen, but at present the indications are that American manufacturers must handle the situation in China promptly and with tact if they are to hold the market they have and to obtain the market they ought to have.

GEO. E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *October 22, 1904.*

COMMERCE AND INDUSTRIES OF CUBA IN 1904.

(*From United States Consul-General Steinhart, Habana, Cuba.*)

CLIMATE.

During the fiscal year ended June 30, 1904, the interest taken by the people of the United States in the island of Cuba appears to have been greater than in past years, judging from the many letters of inquiry addressed to me regarding the climate, healthfulness, sanitary conditions, and opportunities for financial investments. The thousands from the United States who have visited Cuba will agree with me that the climate of the island is pleasant throughout the year, while the dry conditions prevailing during the so-called winter months make this season particularly delightful. The observer of the United States Weather Bureau on duty in this city (Habana) has kindly furnished me the data contained in the following table, from which it will be seen that the average mean temperature during the past fiscal year was 75:

Temperature and precipitation in Habana, by months, year ended June 30, 1904.

Month.	Temperature.			Precipitation.
	Maximum.	Minimum.	Mean.	
	Deg. F.	Deg. F.	Deg. F.	Inches.
1903.				
July.....	88	73	80	5.58
August.....	88	73	80	3.93
September.....	87	73	80	3.04
October.....	82	72	77	4.67
November.....	78	68	73	5.85
December.....	74	64	69	3.07
1904.				
January.....	76	64	69	2.08
February.....	78	65	71	1.78
March.....	81	66	73	1.08
April.....	81	68	75	0.56
May.....	84	71	77	13.84
June.....	86	73	80	2.36
Average.....	82	69	75	
Total.....				47.74

HEALTH AND SANITATION.

SANITARY AND IMMIGRATION SERVICES.

The extremely healthful condition of Cuba is due largely to the efforts of the chief sanitary officer for the island, Dr. Carlos J. Finlay, and his able corps of assistants, and of the maritime sanitary service under charge of Dr. Hugo Robert, and to the constant vigilance of the department of immigration, under charge of Dr. Frank Menocal. The last two departments are enabled to inform the superior board of health of the island of the approach of danger along the Cuban coast, or the development of an infectious disease imported from foreign ports while an immigrant is still at the detention camp or quarantine station.

CAUSES OF DEATH.

The more important causes of death during the past year have been tuberculosis, diseases of the circulatory system, enteritis (under 2 years), bronchitis and pneumonia, tetanus, meningitis, and malaria. Not a single case of yellow fever has developed on the island during the past year or the two preceding years, nor, with a single exception, has there been any smallpox. Malaria, too, has lost the prominent place formerly occupied among the causes of death, and is evidence of the constant and thorough prosecution of sanitary work. The annual death rate per 1,000 inhabitants is 16.37.

SANITARY MEASURES.

The cleanliness inculcated and enforced during the period of military intervention is faithfully adhered to, and street brooms and disinfection spray pumps have attacked the enemy and paralyzed his activity. Educated Cubans have become convinced that by proper sanitation alone, rigorously and intelligently enforced, the island can be made as safe to inhabit as any part of our own country, and in that knowledge lies the assurance that their weight of influence and means will be thrown into the scale for good government and the continued enforcement of sanitary measures.

HABANA WATER SUPPLY.

The magnificent aqueduct of Isabel II, or of the Vento, begun in 1859, which cost millions of dollars, is entitled to special mention. Its supply is derived from the pure and inexhaustible Vento springs, on the very edge of the Almendares River, 9 miles from Habana, and furnishes the city of Habana and its suburbs, as well as the city of Marianao, with an ample supply of excellent water. A large stone basin, open at the bottom, is constructed at Vento, through which springs bubble. From this reservoir the aqueduct leads. It is an elliptical tunnel of brick placed underground and marked by turrets of brick and stone placed along its course.

STREET PAVING, SEWERING, AND SURFACE DRAINAGE.

The question of paving and sewerage the city of Habana will undoubtedly receive the attention of the authorities early in 1905, as at present sewers exist only in a few principal streets. These sewers were built at intervals and without any general plan of drainage.

The surface soil consists for the most part of a thin layer of red, yellow, and black earths. At varying depths beneath this, often not exceeding 1 or 2 feet, lies the solid rock. This foundation rock, especially in the northern and more modern parts of the city—toward the sea, not toward the harbor—is so permeable that liquids emptied into excavations are readily absorbed. In the southern and greater portion of the city this rock is of cretaceous character, and so much less permeable that sinks and other excavations quickly fill to overflowing. In general, good drainage is seldom found in Cuban cities, except Santiago de Cuba, where there is a sewer system, but a scarcity of water.

Within a short period, however, the question of sewerage and paving Habana will be solved by the carrying out of the provisions of the contract let for this work.

PROTECTION OF LIFE AND PROPERTY.

LIGHT-HOUSES.

Navigation along the coast of Cuba is assisted by 33 light-houses, which have recently been improved, and are now reported to be in a satisfactory condition.

POLICE.

Life and property of persons residing in cities and towns are well protected by the municipal police force (which in the city of Habana consists of 1 chief, 70 officers, and 1,007 men, not including a police band of 50 members), and, in addition, port cities have harbor police, charged with the preservation of peace and order in harbors and along the wharfs, as well as with the safety of merchandise stored there.

The maintenance of safety in the rural districts and along highways is intrusted to the care of the Rural Guard of Cuba, a body of excellent men, well mounted and equipped, numbering 1 chief, 163 officers, and 2,856 men. It is intended to increase the number of men to 4,000.

COAST DEFENSES.

The coast defenses are guarded by an artillery corps, consisting of 1 chief, 24 officers, and 648 men, at present instructed by Capt. Dwight E. Aultman, of the United States Artillery. A contract has recently been made for new arms and ammunition for the Rural Guard and Artillery Corps. The rifle selected permits the use of United States army ammunition.

RAILROADS.

Cuban railroads are divided into two classes—public railroads and private plantation railroads. Particulars covering both classes are given in the tables and statements following.

Names and mileage of public railways of Cuba.

Name of railroad.	Miles.	Name of railroad.	Miles.
United Railways of Habana.....	248	Guantanamo Railroad.....	22
Cuban Central Railway.....	220	Gibara and Holguin Railroad.....	19
Cardenas and Jucaro Railroad.....	210	Marianao and Habana Railroad.....	8
Matanzas Railroad.....	164	Cuban Electric Company.....	2.6
Western Railway of Habana.....	111	Cuba Railroad Company.....	337
Puerto Principe and Nuevitas Railroad.....	45	Caracas Central Railroad.....	40
Santiago Railroad.....	31		
Tunas and Sancti Spiritus Railroad.....	24	Total.....	1,481.6

To the foregoing should be added the Tricornia Railroad of Habana, 6 miles, and the Jucaro and Moron Railroad, in Puerto Principe, 40 miles, both the property of the Cuban Government.

PLANTATION RAILROADS.

The private plantation railroads afford the always alert and up-to-date American manufacturer, as well as merchants dealing in railway supplies, an opportunity to sell their products, and for this reason all information on hand in regard to these roads is given in detail.

Names, post-office addresses, mileage, gauge, weight of rails, locomotives, and cars, of the plantation railroads of Cuba.

Names of railroads.	Post-office addresses.	Length of roads.	Gauge.	Weight of rails per yard.	Number of locomotives.	Number of cars.
		<i>Miles.</i>	<i>Ft. In.</i>	<i>Pounds.</i>		
Acetania Plantation.....	Macagua.....	2	4 8 $\frac{1}{2}$	40	1	30
Adela Plantation.....	Cabarlen.....	13	3 0	40	3	70
Aguada Plantation.....	Cardenas.....	6	4 8 $\frac{1}{2}$	80	None.	None.
Aguedita Plantation.....	Macagua.....	5.3	4 8 $\frac{1}{2}$	40	2	10
Alava Plantation.....	Banaguises.....	10	4 8 $\frac{1}{2}$	60	3	.....
Altemoia Plantation.....	Aguacate.....	1.5	2 6	.....	1	38
Armonia Plantation.....	Bolondron.....	2.5	4 8 $\frac{1}{2}$	.....	.....	14
Australia Plantation.....	Jaguey Grande.....	6.8	.....	60	1	50
Averhoff Plantation.....	Aguacate.....	1.5	4 8 $\frac{1}{2}$	45	.....	.....
Baga and San Miguel Plantation.....	Nuevitas.....	5.3	4 8 $\frac{1}{2}$	55	.....	.....
Banes Plantation (United Fruit Co.).....	Banes.....	29	3 0	40	7	300
Caney Plantation.....	Guarefiras.....	6	4 8 $\frac{1}{2}$	.....	.....	.....
Caracas Plantation.....	Cruces.....	61	2 6	40	16	702
Carahatas Plantation.....	Carahatas.....	5	4 8 $\frac{1}{2}$	20	1	16
Carmen Plantation.....	Navajas.....	7	4 8 $\frac{1}{2}$	60	.....	.....
Cobrer Railroad Company.....	Habana ^a	8	4 0	30	.....	.....
Colonia Santa Rosa Plantation.....	Santiago de Cuba ^b	8	3 0	.....	1	100
Conchita Plantation.....	Guantanamo.....	32	2 6	.....	2	136
Cuban Steel Ore Company.....	Alcraanes.....	.....	.....	.....	.....	.....
	Girard Building, Philadelphia ^a	5	.....	80	1	108
	Santiago de Cuba ^b.....	.....	.....	.....	.....	.....
Dolores Plantation.....	Jovellanos.....	1.9	.....	.....	1	7
Do.....	do.....	3.7	4 8 $\frac{1}{2}$	30	1	7
Dos Hermanos Plantation.....	Cienfuegos.....	4.3	4 8 $\frac{1}{2}$	60	.....	.....
Dulce Nombre Plantation.....	Macagua.....	2.7	4 8 $\frac{1}{2}$	35	1	.....
	do.....	25	2 6	20	1	16
Elizalde Plantation.....	Isabela.....	3.1	4 8 $\frac{1}{2}$	65	.....	.....
Espana Plantation.....	Altamisal.....	2	4 8 $\frac{1}{2}$	60	.....	.....
Esperanza Plantation.....	Calimete.....	2	4 8 $\frac{1}{2}$	.....	.....	.....
Do.....	Guantanamo.....	6.2	3 0	.....	1	20
El Pilar Plantation.....	Artemisa.....	3.1	4 8 $\frac{1}{2}$	.....	1	6
El Salvador Plantation.....	Sitiecito.....	11	2 6	25	2	40
Fajardo Plantation (San Antonio de los Baños).....	Gabriel.....	1.4	5 3	45	.....	9
Felix Plantation.....	Bolondron.....	3.3	4 0	60	1	8

^a Principal office.^b Business office.

Names, post-office addresses, mileage, gauge, weight of rails, locomotives, and cars, of the plantation railroads of Cuba—Continued.

Names of railroads.	Post-office addresses.	Length of roads.	Gauge.	Weight of rails per yard.	Number of locomotives.	Number of cars.
		<i>Miles.</i>	<i> Ft. In.</i>	<i>Pounds.</i>		
Flora Plantation.....	Guira.....	.6	4 8 $\frac{1}{2}$	58		
Guipuzova Plantation.....	Hato Nuevo.....	1.4	4 8 $\frac{1}{2}$	30	1	20
Hatilla Plantation.....	Santiago de Cuba.....	2.8	2 6	30	1	26
Hormiguero Plantation.....	Hormiguero.....	18.6	2 6	40	4	150
Josefa Plantation.....	Nueva Paz.....	3.7	4 8 $\frac{1}{2}$	60		
Juragua Iron Co. (Limited).....	Girard Building, Philadelphia. ^a	17.4	3 0	60	5	1,341
La Julia Plantation.....	Santiago de Cuba. ^b	5	4 8 $\frac{1}{2}$			
Do.....	San Antonio de los Vegas.	3.1	2 0	16		20
La Vega Plantation.....	Guarefias.....	.7	4 8 $\frac{1}{2}$			
Lequeto Plantation.....	Cienfuegos.....	15	2 6	30	3	209
Limones Plantation.....	Limones.....	9.3	4 8 $\frac{1}{2}$	30	4	801
Los Canas Plantation.....	Guantanamo.....	6.2	2 6		2	32
Loteria Plantation.....	Jaruco.....	12.4	2 6		1	66
Luisa Plantation.....	Joveleanos.....	.8	4 8 $\frac{1}{2}$			
Majagua Plantation.....	Union.....	1.4	4 8 $\frac{1}{2}$	60		
Margarita y Teresa Plantation.....	San Nicolas.....	2.2	4 8 $\frac{1}{2}$	60	1	
Do.....	Alacranes.....	1.9	4 8 $\frac{1}{2}$	60		
Mercedes Plantation.....	Guarefias.....	2	4 8 $\frac{1}{2}$			
Mercidita Plantation.....	Melena del Sur.....	15	2 6	75	2	130
Narcisca Plantation.....	Ombarien.....	52	2 3	40	4	214
Nena Plantation.....	Manguito.....	.8	4 8 $\frac{1}{2}$	70		
Nombre de Dios Plantation.....	Guines.....	1.2	4 8 $\frac{1}{2}$	75		
Nueva Paz Plantation.....	Nueva Paz.....	6.2	2 6	16	1	30
Perseverancia Plantation.....	Aguada.....	5.8	2 6	30	1	35
Do.....		5.2	4 8 $\frac{1}{2}$	40	1	56
Porfueza Plantation.....	Calimete.....	9.2	4 8 $\frac{1}{2}$	60	1	
Portugalete Plantation.....	Palmira.....	5	2 6	25	2	60
Providencia Plantation.....	Guines.....	7.4	2 6	45	2	51
Redemcion Plantation.....	Habana.....	14.9	2 6	56	3	60
Reforma Plantation.....	Caibarien.....	2.7	3 0		1	34
Regla Plantation.....	Perico.....	2	4 8 $\frac{1}{2}$	55	1	8
Rodas Plantation.....	Rodas.....	13.7		40	2	48
Rosario Plantation.....	Aguacate.....	7.7	4 8 $\frac{1}{2}$	60	1	44
San Antonio Plantation.....	Guantanamo.....	4	2 6			
San Augustin Plantation.....	Cienfuegos.....	16	2 6	30	6	340
Do.....	Habana, a Quivicam. ^b	5.6	4 8 $\frac{1}{2}$	30	1	2
San Carlos Plantation.....	Guantanamo.....	5	3 0	35		90
San Cayetano Plantation.....	La Cedra.....	.6	4 8 $\frac{1}{2}$	60		
San José Plantation.....	Placetas.....	2	4 8 $\frac{1}{2}$	45	2	
San Miguel Plantation.....	Guantanamo.....	5	2 6		2	87
Do.....	Guira de Macurgis.....	.8	4 8 $\frac{1}{2}$	65		
San Rafael.....	Bolondron.....	2	4 8 $\frac{1}{2}$	30	1	60
San Vicente Plantation.....	Cardenas.....	5	2 6			
Santa Catalina Plantation.....	Corral Falso.....	1.2	4 8 $\frac{1}{2}$	60		12
Santa Gertrudis Plantation.....	Banaguises.....	18.6		30	2	80
Do.....		4.4	4 8 $\frac{1}{2}$	30	2	40
Santa Lucia Plantation.....	Gibara.....	19.4	2 6	30	4	131
Santa Lutgarda Plantation.....	Sierra Morena.....	3.1	4 8 $\frac{1}{2}$	20		
Santa Maria Plantation.....	Guantanamo.....	4				100
Santa Matilda Plantation.....	Aguacate.....	.8	4 8 $\frac{1}{2}$	60		
Santa Rita Plantation.....	Baro.....	4.3	2 6		2	34
Do.....	Madrugra.....	.8	4 8 $\frac{1}{2}$		2	21
Santa Rosa Plantation.....	Union.....	2	4 8 $\frac{1}{2}$	22		
Santa Teresa Plantation.....	Sagua la Grande.....	1.9	4 8 $\frac{1}{2}$	57		
Santissima (Trinidad) Plantation.....	Cruces.....	13.2	2 6		4	161
Do.....		6.2	2 5		3	160
Senado Plantation.....	Las Minas.....	30	2 6	40	7	616
Siga Iron Company (Brooks & Co.).	Santiago de Cuba.....	8	4 8 $\frac{1}{2}$		3	42
Soledad Plantation.....	Central Soledad, Cienfuegos.....	16.8	2 6	30	4	100
Do.....	Guantanamo.....	5.6	3 0	30	2	53
Do.....	Jovellanos.....	6.6	2 6	60	1	50
Spanish-American Iron Company.....	26 Broadway, New York. ^a	3.7	4 8 $\frac{1}{2}$	60	5	60
St. Augustin Plantation.....	Santiago de Cuba. ^b					
Do.....	Remedios.....	7.5		45	2	51

^a Principal office.

^b Business office.

Names, post-office addresses, mileage, gauge, weight of rails, locomotives, and cars, of the plantation railroads of Cuba—Continued.

Names of railroads.	Post-office addresses.	Length of roads.	Gauge.	Weight of rails per yard.	Number of loco- motives.	Num- ber of cars.
		<i>Miles.</i>	<i>Ft. In.</i>	<i>Pounds.</i>		
Teresa Plantation.....	Melena del Sur, Ha- bana.	10.6		20	3	150
Tinguaro Plantation.....		.9	4 8½	60	2	
Tivo Tivo.....	Tivo Tivo, Habana	.6	4 11	15		
Toledo Plantation.....	Marianao.	6.2	4 8½	30	1	40
Trinidad Plantation.....	Trinidad.	7	3 0	60	2	80
Triunvira Plantation.....	Cidra.	5	2 6	42	2	42
Unidad Plantation.....	Cifuentes.	3.1	4 6½	60		
Union Plantation.....	Nuevitas.	2.5	3 0		2	60
Victoria (Sague) Plantation.....	Sagua la Grande.	32.3	2 6	35	6	200
Vitoria Plantation.....	Yaguajay.	31	2 3½	35	4	190
Zaza Plantation.....	Placetas.	44.7	3 0	50	1	

Acetania Plantation Railroad.—This is in the vicinity of the Cardenas and Jucaro Railroad system.

Adela Plantation Railroad.—The rails of this road are of Krupp steel, the ties of Cuban hard wood, and the locomotives are Baldwins, in excellent condition. The road is in the vicinity of the Cuban Central Railway system.

Aguada Plantation Railroad.—This road uses the locomotives and cars of the Cardenas and Jucaro Railroad.

Alava Plantation Railroad.—This road uses the cars of the Cardenas and Jucaro Railroad.

Averhoff Plantation Railroad.—This road uses the locomotives and cars of the United Railways of Habana system.

Baga and San Miguel Plantation Railroad.—This road is not in operation, owing to the fact that its equipment, bridges, and culverts were destroyed during the insurrection. The plantation is in the vicinity of the Puerto Principe and Nuevitas Railway system, but has its own tide-water outlet.

Banes Plantation Railroad.—This road is for the exclusive use of its owners, the United Trust Company; it runs through its plantations, hauling cane to its central baton; also bananas to Banes, the seaport where shipments are made. It is in the vicinity of the Nipe Bay extension of the Cuban Railway system.

Caney Plantation Railroad.—This road is in the vicinity of the Matanzas Railway Company's system, whose cars and locomotives it uses.

Caracas Plantation Railroad.—Twelve of the locomotives of this road are Baldwins. Seven iron and seven wood bridges span streams in this plantation, besides one combination bridge on the railroad. The road is well built and well managed, and cost over \$1,000,000. The road is in the vicinity of the Cuban Central Railway system.

Carmen Plantation Railroad.—This road uses the locomotives and cars of the Matanzas Railway.

Cuban Steel Ore Company. (Principal office, 1103 Girard Building, Philadelphia.) There are 13 bridges on this road—2 iron suspension bridges, 1 iron trestle bridge, 2 iron girder bridges, 4 wooden trestle bridges, and 4 wooden girder bridges. The locomotives consume two cords of wood daily, at a cost of \$2 per cord.

Dolores Plantation Railroad.—It will be noted that there are two Dolores Plantation roads near Jovellanos. Communications intended for the second and larger road should be addressed to Sr. Enrique Garcia.

Dos Hermanos Plantation Railroad.—This road uses the locomotives and cars of the Cuban Central Railway.

Elizalde Plantation Railroad.—This road uses the locomotives and cars of the Matanzas Railroad.

España Plantation Railroad.—This road uses the cars and locomotives of the Cardenas and Jucaro Railroad.

Esperanza Plantation Railroad (Calimete).—This road also uses the cars and locomotives of the Cardenas and Jucaro Railroad.

Fujardo Plantation Railroad.—This road uses the locomotives of the Western Railroad.

Flora Plantation Railroad.—This road uses the cars and locomotives of the Matanzas Railroad system.

Josefita Plantation Railroad.—This road uses the cars and locomotives of the United Railways of Habana.

Juragua Iron Company (Limited). (Philadelphia and Juragua.)—This road cost \$1,100,000; its cars are as follows: 2 box; 120 earth; 1,200 7-ton ore; 12 flat; 1 derrick; 5 hand; 5 steam inspection.

La Julia Plantation Railroad (Camajuani).—This road uses the locomotives and cars of the Cuban Central Railway.

La Vega Plantation Railroad.—This road uses the locomotives and cars of the Cardenas and Jucaro and Matanzas systems.

Luisa Plantation Railroad.—This road uses the locomotives and cars of the Matanzas Railway.

Majagua Plantation Railroad.—This road uses the cars and locomotives of the Matanzas Railway system.

Magarita y Teresa Plantation Railway.—This road uses the cars and locomotives of the United Railways of Habana system.

Mercedes Plantation Railroad.—This road uses the locomotives and cars of the Matanzas and Cardenas and Jucaro Railway systems.

Narcisca Plantation Railroad.—This road is in the vicinity of the Cuban Railway system, but has its own outlet to tide water.

Nombre de Dios Plantation Railroad.—This road uses the cars and locomotives of the United Railways of Habana.

Providencia Plantation Railroad.—In addition to the mileage given in the table, this road has 5 miles of portable plantation railway, and 25 cars and 1 locomotive for use on the same. This plantation is in the vicinity of the United Railways of Habana system.

Rodas Plantation Railroad.—This road runs from Rodas to Turquino and Cartagena, in the vicinity of the Cuban Central Railway system, but has its own tide-water outlet by river route into Cienfuegos Bay.

San Cuyetano Plantation Railroad.—This road uses the locomotives and cars of the Matanzas Railway system.

San Miguel Plantation Railroad (Guira de Macuriges).—This road uses the locomotives and cars of the Matanzas Railway.

San Vicente Plantation Railroad.—This road uses the cars and locomotives of the Cardenas and Jucaro Railway system.

Santa Catalina Plantation Railroad.—This road uses the cars and locomotives of the Matanzas Railway.

Santa Gertrudis Plantation Railroad.—The 4 locomotives used on this road are of the Baldwin make. In addition to the equipment of this road, as given in the foregoing table, 2 locomotives and 60 cars are rented from the Cardenas and Jucaro Railway during the sugar season.

Santa Lucia Plantation Railway.—Two iron bridges of 57 and 68 feet spans are in this plantation, which is in the vicinity of the Gibara and Holguin Railway system, but it has its own tide-water outlet at the port of Vita.

Santa Lulgarda Plantation Railroad.—This road uses the locomotives and cars of the Cuban Central Railroad.

Santa Matilde Plantation Railroad.—This road uses the locomotives and cars of the United Railways of Habana.

Santa Rosa Plantation Railroad.—This road uses the locomotives and cars of the Matanzas Railway.

Senado Plantation Railroad.—This road, which is in the vicinity of the Puerto Principe and Nuevitas Railway, has 4 Baldwin locomotives, 2 Porter locomotives, and 1 English locomotive.

Sigua Iron Company Railroad.—This road, completed in 1892, is not now in operation. It is in the vicinity of Sigua Bay, on the south coast of the province of Santiago, and furnishes transportation for the Sigua iron mines of the interior.

Soledad Plantation Railroad (Central Soledad, Cienfuegos).—This road is in the vicinity of the Cuban Central Railway system, but has river connection with tide water to Cienfuegos Bay.

Spanish-American Iron Company Railroad.—This is a private road, used exclusively for conveying iron ore and the materials and supplies used in its mining operations.

Trinidad Plantation Railroad.—This road is in the vicinity of the Cuban Central Railway system, but has its own tide-water outlet.

Unidad Plantation Railroad.—This road uses the locomotives and cars of the Cuban Central Railway.

The total length of the plantation railroads of Cuba is 871 miles, and their value \$11,309,692.

Letters addressed "To the Administrator, ——— plantation railroad, at ——— (town), Cuba," will undoubtedly meet with prompt reply, provided they are written in the Spanish language, as on many of the plantations there are no English-speaking persons.

HABANA ELECTRIC RAILWAY COMPANY.

The Habana Electric Railway Company operates a mileage of 48.22, and gives an excellent street-car service. The company is operating 161 closed motor cars, and is now building in its shops 9 open motor cars, and has 15 freight cars. The employees of this company number 1,100. They are principally natives of Cuba, and their neat appearance and politeness are so apparent as to cause complimentary remarks on the part of every tourist visiting Habana. The Americans employed by the company are heads of departments. This company has purchased in the United States practically all of the materials used in the construction and maintenance of its road, and has expended for construction \$4,233,786. The yearly purchase of materials in the United States for maintenance is \$70,000. The gross receipts of the company for the year ending June 30, 1904, amounted to \$1,161,295 United States currency.

During the past year the company constructed the new loop along Cuba street, across the wharves and custom-house of Habana, including an elevated structure which was designed in Cuba by the engineers of the company. Bids for its construction were invited from different countries producing structural-steel materials, and the contract was awarded to a New York company as the lowest and best bidder. This was prior to the reciprocity treaty.

The company consumes annually 15,990 tons of Pocahontas coal, which is purchased in New York and shipped from Newport News, costing the company \$5.69 per ton.

It is the intention, as well as the desire of the board of directors of this company to proceed with the building and equipment of the insular railway. The Insular Railway Company is a subsidiary company of the Habana Electric Railway Company, chartered under the railway laws of Cuba, to extend its lines through the province of Habana for about 100 miles. So far, about 5½ miles have been built, and have been in operation since November 15, 1903, and the company now contemplates making an extension of possibly 30 or 40 miles in the direction, most likely, of Guanajay, thus passing through the center of the pineapple-growing district. The lines of the Insular Railway Company will be built in accordance with the specifications of a first-class interurban railway of the United States. I am assured that the company will endeavor to use American materials and machinery throughout.

This company has leased the omnibus line operating throughout the city of Habana and along many of the suburban roads.

Having noticed that 9 open motor cars are now being constructed in the shops of the company, I inquired the reason for this, as heretofore the cars have been brought from the United States. I am informed that a considerable portion of the woodwork of the cars sent from the United States to Cuba deteriorates very rapidly, and it has been found necessary to adopt the native woods of Cuba in place of the woods of the United States. The American wood that apparently lasts longest in Cuba is the long-leaf yellow pine, which costs considerably less than Cuban woods, the prices being about \$35 per thousand feet for first-quality long-leaf yellow pine and \$70 per thousand feet for first-quality Cuban hard woods.

Letters should be addressed to "Mr. G. F. Greenwood, general manager of the Habana Electric Railway Company, Habana, Cuba."

TELEGRAPHS, TELEPHONES, AND POSTAGE RATES.

TELEGRAPH RATES.

Commercial messages are accepted for transmission over the Government lines at the rates given (in United States currency). A message of less than 10 words is rated and charged as a 10-word message, and the address and signature are included. When a message passes first over a local line, second over a foreign line, and third over a local line, two local rates will be charged.

Rates per word for commercial messages over Cuban Government telegraph lines.

From stations in province of—	To stations in province of—					
	Pinar del Rlo.	Habana.	Matanzas.	Santa Clara.	Puerto Principe.	Santiago
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
Pinar del Rlo	2	2	2	3	4	5
Habana	2	2	2	2	3	4
Matanzas	2	2	2	2	2	3
Santa Clara	3	2	2	2	2	2
Puerto Principe	4	3	2	2	2	2
Santiago	5	4	3	2	2	2

CABLE LINES.

Concessions were granted during the Spanish dominion to the International Ocean Telegraph and Cable Company, the French Cable Company, the Cuba Submarine Telegraph Company, and the United States and Haiti Telegraph and Cable Company.

The International Ocean Telegraph and Cable Company maintains and operates a cable between the United States and Cuba, and claims the exclusive right of telegraphic communication between the two countries until January, 1906, by virtue of a concession from the Spanish Government dated December 5, 1866, and May 13, 1867.

The French Cable Company maintains and operates a cable from Haiti to Cuba, landing at Santiago de Cuba, under a concession granted by the Spanish Government April 1, 1887.

The Cuba Submarine Telegraph Company maintains and operates a submarine cable along the southern coast of Cuba, reaching from Santiago de Cuba to Cienfuegos, and connecting with Habana by land line.

The United States and Haiti Telegraph and Cable Company maintains and operates a cable from New York City to Haiti, and messages between Santiago and New York can be sent via the French Cable Company to Haiti, and from thence via the United States and Haiti Telegraph and Cable Company to New York, or vice versa.

WIRELESS TELEGRAPHY.

Permits have been granted for the erection of experimental stations to several wireless telegraph companies, including the Marconi, the De Forest, and the Fessenden. The De Forest Company has erected a station at El Vedado, a suburb of the city of Habana; the Marconi Company has imported material for the erection of a station, and the Fessenden Company is now completing arrangements for the installation of stations.

TELEPHONES.

In the larger towns and cities telephone systems are in operation, and permits are granted from time to time for the construction of private telephone lines connecting plantations, etc., with railroad stations, stations of the rural guard, nearest city hall, or adjoining plantations.

RATES OF POSTAGE.

As many of the letters mailed in the United States for Cuba bear 5-cent stamps, attention is called to the fact that the existing domestic rates of postage in the United States are extended to Cuba, viz: Letters from the United States to Cuba, or vice versa, each ounce or fraction thereof, 2 cents; postal cards, single, 1 cent; postal cards, double, 2 cents; second-class matter, each pound, 1 cent; third-class matter, each 2 ounces, 1 cent; fourth-class matter, each ounce, 1 cent.

STEAMSHIP COMMUNICATION.

Habana can best be reached from New York by Ward Line steamers, sailing from that city Wednesday and Saturday of each week, if an all-sea voyage is desired. These steamers arrive at Habana Monday and Wednesday of each week, and sail for New York Tuesday and Saturday.

Ward Line steamers also leave Habana every Monday for Mexico.

If rail and water journey is desired, one of the following routes should be selected:

Steamers sail from New Orleans (Southern Pacific) every Saturday, arrive at Habana on Monday, and return to New Orleans Tuesday. The average length of the ocean voyage is 32 hours, to which must be added 12 hours consumed in going up or down the Mississippi River.

The Peninsular and Occidental Steamship Company's steamers sail from Tampa, Fla., Sunday, Tuesday, and Thursday nights of each week, arriving in Habana Tuesday, Thursday, and Saturday mornings, and returning to Tampa at noon on the same days. The average length of the sea voyage is 26 hours. This line has also a steamer between Miami, Fla., and Habana, which sails on Wednesday and Saturday of each week from Miami, and arrives here on Friday and Monday, leaving for Miami the same day.

The Munson Steamship Company has a steamer from Mobile, Ala., which leaves that city every Tuesday, arriving in Habana on Thursday, and returning to Mobile on Friday of each week. The average time of the voyage is 48 hours.

Steamers of the West Indian Company (Limited)—Dutch mail steamers—sail from Copenhagen on the 30th of each month, stopping at Antwerp, Belgium, Havre, France, and Corunna, Santander, and Bilbao, Spain, arriving here 13 days after, sailing hence 2 days later for Vera Cruz, Tampico, and Progreso, returning to Habana to sail for Europe again on the 30th day of each month.

Steamers of the Compañía Transatlántica Española—Spanish mail and passenger steamers—sail from Bilbao, Corunna, Santander, Cadiz, and Barcelona three times a month. These steamers go from Bilbao, stopping at New York, on the 10th of each month; from Bilbao, stopping at Corunna and Santander, on the 20th, and from Barcelona, Bilbao, Cadiz, and Genoa on the 30th; all arrive at Habana 15 days after the date of sailing. The first steamer each month of this line goes to Mexico; from Mexico to Central American ports; thence to Porto Rico, the Canary Islands, Genoa, Malaga, Bilbao, Cadiz, and Barcelona. These steamers leave Habana on the 4th or 5th of each month. The second steamer leaves Habana for Veracruz, Mexico, 2 days after arrival here, and returns to this port about 10 days thereafter, and sails on the 20th of each month for Europe. The third

steamer leaves Habana 2 days after arrival for Mexico and South American ports, and returns to sail from Habana on the 30th of each month for Bilbao, via New York, Italian ports, and the Canary Islands.

The Hamburg-American Line has steamers leaving Hamburg on the 24th of each month, stopping at Antwerp and arriving at Habana on the 14th to 16th of each month. From Habana they go to Mexico, and return to leave Habana for Europe on the last of each month.

The North German Lloyd Company has steamers sailing from Bremen on the 14th of each month, stopping at Antwerp, Corunna, and Villagarcia, arriving at Habana on the 6th of the following month. After discharging cargo for Habana they sail for Matanzas, Cardenas, Sagua, Manzanillo, Santiago de Cuba, and Cienfuegos, and then return to Habana, whence they sail on the 2d to the 5th of every month for Bremen, stopping at Villagarcia, Corunna, and Antwerp.

The Herrera Steamship Line has steamers between Habana and Porto Rico. Steamers sail on the 10th or 11th of each month for Nuevitas, Puerto Padre, Gibara, Baracoa, Guantanamo, Santiago de Cuba, Santa Domingo, San Pedro de Macoris, Ponce, Mayaguez, and San Juan, Porto Rico, returning to Habana on the 1st or 2d of the following month.

A. Folch & Co. have steamers sailing on the 14th or 15th of each month from Barcelona, touching at Valencia, Alicante, Malaga, Cadiz, Vigo, and Corunna. Leaving Corunna about the 28th or 30th of each month these steamers arrive at Habana on or about the 14th, and sail about a week thereafter for Santiago de Cuba and Cienfuegos, and thence to New Orleans. If there are passengers for Spain the steamers return to Habana, and then sail direct for Barcelona, Spain.

The Norton Steamship Line has steamers between Buenos Aires, Argentina, and Cuba. Steamers sail from Buenos Aires on the 25th of every month, arriving at Habana 23 days after date of sailing, and leaving Habana 3 days after arrival for New York, returning after 3 days' stay to Buenos Aires via Montevideo.

The Compañía General Transatlántica de Vapores Correos Franceses has steamers leaving St. Nazaire every month, touching at Corunna and Santander about the 24th or 25th, arriving at Habana on the 5th, and sailing the day after arrival here for Vera Cruz, Mexico. Returning about 10 days later to Habana, they sail on the 15th for Santander, Corunna, and St. Nazaire.

Steamers of the Pinillos Yzquierdo & Co.'s Spanish Transatlantic Steamship Line leave Barcelona about the 29th of each month, touching at Palmas de Majorca, Valencia, Malaga, Cadiz, Las Palmas, Grand Canary, Santa Cruz de Tenerife, Santa Cruz de la Palma, Porto Rico, and Santiago de Cuba. Arriving at Habana about a month after, they sail for Matanzas, and thence to New Orleans. If there are passen-

gers from Habana for Spain the steamers return to Habana before sailing for Spain; otherwise they sail from New Orleans direct for Spain.

PROPOSED HARBOR IMPROVEMENTS AT HABANA.

RAISING THE MAINE.

On June 8, 1904, a contract was entered into between the Republic of Cuba and Mr. Joseph De Wyckoff to remove the wreck of the *Maine* from Habana Harbor. The work is to be done at the expense of the contractor, who, in addition, is to pay into the Treasury of Cuba the sum of \$5,000, and in exchange is given title to the property recovered. The work is to commence in December, 1904, and must be completed within one year. A company with \$600,000 capital was incorporated September 8, 1904, at Washington, D. C., entitled the "United States Battleship Maine Salvage Company," of which Mr. De Wyckoff appears as managing director, Dr. Elmer L. Corthell as chief consulting engineer, Mr. E. A. Bond and Mr. W. R. Davis as consulting engineers, and Capt. A. H. Weber, formerly on duty with the engineer department at Habana, as constructing engineer. It is proposed to construct a circular water-tight cofferdam around the vessel. The cofferdam and all other obstruction to navigation must be removed at the date when the time limit expires. All machinery and materials required to carry on the work are admitted free of duty.

PIERS AND WHARVES.

A very elaborate scheme for the construction of piers and wharves, carefully designed and planned by Mr. Sylvester Scovel, of Habana, is under consideration and if approved and carried out will provide employment for many men, and opportunity for the sale of machinery and necessary materials. The Insular Railway Company of Habana, Mr. G. F. Greenwood, manager, has also under consideration the construction of a pier, the necessary material for which will, it is thought, be purchased in the United States.

CUBAN BONDS AND STOCKS.

Amount, interest, and value of Cuban bonds and stocks in 1904.

Name.	Amount outstand- ing.	Annual interest.	Quotation U. S. cur- rency.	Principal due in—
BONDS.				
Cuban Republic	\$2,191,585	<i>Per cent.</i>		
City Habana, first mortgage	7,000,000	6	103	1908
City Habana, second mortgage	3,500,000	6	107	1939
Cienfuegos Railroad	403,000	6	102½	1938
Cienfuegos Railroad, second mortgage	282,000	8	108	1921
Caibarien Railroad	247,000	7	100	1921
Cuban Central Railroad	247,000	7	100	1922
Cuban Central Railroad	4,000,000	4½	100	1944
Cuban Electric, first mortgage	300,000	6	100	1920
Consolidated Gas, first mortgage	487,000	8	101	1905
Consolidated Gas, second mortgage	2,898,500	5	40	1950
Gibara and Holguin	179,000	8	92	.....

Amount, interest, and value of Cuban bonds and stocks in 1904—Continued.

Name.	Amount outstand- ing.	Annual interest.	Quotations U. S. cur- rency.	Principal due in—
STOCKS.				
		<i>Per cent.</i>		
Cuban National Bank	\$1,000,000	8	107	.....
Spanish Bank	5,000,000	6	75	.....
Puerto Principe Agriculture Bank	320,000	4	44	.....
United Railways	7,720,000	6	93	.....
Matanzas Railroad	6,000,000	7	100	.....
Cardenas and Jucaro Railroad	8,000,000	7	100	.....
Western Railroad	3,000,000	6	120	.....
Cuban Central, preferred	5,000,000	5½	100	.....
Cuban Central, common	4,500,000	.....	38	.....
Havana Dry Dock	340,000	8	75	.....
Red Telephone	270,000	.....	28	.....
Tropical Ice Factory	625,000	8	95	.....
Gibara and Holguin Railroad	400,000	.....	20	.....

CURRENCY AND FINANCE.

CURRENCY.

Cuba has no currency of its own coinage. The official money of the Republic is United States currency, and all taxes and public debts are payable in the same, except fees of registrars of property, which are collected in Spanish gold. In commercial circles (wholesale) Spanish gold is the basis of calculation, and in the retail trade and in the country Spanish silver is almost entirely used.

United States currency is always at a premium over Spanish gold, but this premium fluctuates according to demand for Spanish gold and silver. During the year ended June 30, 1904, the American dollar was on an average equivalent to \$1.09 Spanish gold, or \$1.38 Spanish silver, the fluctuation being from \$1.10½ to \$1.08½ in gold, and from \$1.42 to \$1.35 in silver.

GOVERNMENT BONDS.

In February, 1904, a contract for the purchase of Cuban 40-year 5 per cent bonds to the amount of \$35,000,000 was entered into between the Republic of Cuba and the American banking firm of Speyer & Co., of New York, whose offer for the entire issue at 90½ was accepted. These bonds sold at 96 within thirty days after contract was signed, and are now quoted at 102½. A special stamp tax was created by law, guaranteeing a sufficient income for sinking fund and interest on the loan, and a certain percentage of custom revenues were also pledged as guaranty. Up to June 30, 1904, the amount realized from this stamp tax aggregated \$2,251,947—more than sufficient to cover the annual interest and sinking fund, as will appear from the table showing the revenues and expenditures. The proceeds of this loan were required, by the law authorizing it, to be applied exclusively in the payment of the Cuban revolutionary army, which payments will commence not later than October 1, 1904.

JUNTA BONDS.

The Cuban Congress has also made provisions for the payment of interest on about \$3,000,000 Cuban junta bonds, issued in New York in 1896-97, to aid in obtaining independence, which are recognized by the Cuban constitution. Interest to date has been paid on all bonds presented, and the principal is not due until ten years after the evacuation of Cuba by Spanish forces, which took place January 1, 1899.

REVENUE AND EXPENDITURES.

The revenues of the island are classified as receipts from customs, internal revenue, postal and telegraph receipts, and consular fees. The following table shows a balance on June 30, 1904, of \$5,860,372.37, after deduction of the amount due for fees of honorary consuls, postal money orders, outstanding bills, and funds collected through stamp tax for sinking fund and interest on loan made for the payment of the Cuban army:

Revenue and expenditures of Cuba during the fiscal year ended June 30, 1904.

GENERAL FUNDS.	
On hand July 1, 1903.....	\$2,968,689.37
Receipts during year ended July 1, 1904:	
Customs.....	\$18,299,470.01
Internal revenue.....	1,001,253.00
Postal and telegraph.....	544,600.00
Consular fees.....	266,918.09
	<hr/>
	20,112,241.10
Total receipts.....	23,080,930.47
Expenses during year.....	17,220,558.10
	<hr/>
Balance June 30, 1904.....	5,860,372.37
TRUST FUNDS.	
On hand July 1, 1903:	
Postal orders outstanding.....	\$183,893.03
Outstanding bills.....	4,024.65
Correctional courts.....	15,855.96
	<hr/>
	\$203,773.64
Receipts during year ended July 1, 1904:	
Postal orders.....	5,850,266.01
Honorary consular fees.....	6.45
Stamp tax for loan.....	2,251,946.52
Outstanding bills.....	6,621.89
Correctional courts.....	61,188.45
	<hr/>
	8,170,029.32
	<hr/>
	8,373,802.96
Expenditures during year ended July 1, 1904:	
Postal orders.....	5,870,439.85
Loan (interest and sinking fund).....	1,209,486.48
Outstanding bills.....	3,678.73
Correctional courts.....	77,044.41
	<hr/>
	7,160,649.47
	<hr/>
Balance in treasury to meet outstanding bills.....	1,213,153.49

RECAPITULATION.

On hand July 1, 1903:

General revenues.....	\$2, 968, 689. 37	
Trust funds.....	203, 773. 64	
		\$3, 172, 463. 01

Receipts during year ended July 1, 1904:

General revenues.....	20, 112, 241. 10	
Trust funds.....	8, 170, 029. 32	
		28, 282, 270. 42

Total revenues..... 31, 454, 733. 43

Expenditures during year ended July 1, 1904:

General expenses.....	17, 220, 558. 10	
Trust funds.....	7, 160, 649. 47	
		24, 381, 207. 57

Balance June 30, 1904..... 7, 073, 525. 86

Less outstanding debts..... 1, 213, 153. 49

Net balance in treasury June 30, 1904..... 5, 860, 372. 37

SUGAR CROP.

The principal crop this year, as for some years past, has been sugar, of which the production has been 60,817 tons in excess of that of last year. Prices obtained for sugar this year exceeded those of last year, and the value of the crop is consequently considerably more, and can safely be stated as \$50,000,000. The prices obtained during the first six months of 1904 were as follows per 100 pounds: January, \$1.77; February, \$1.77; March, \$2.04; April, \$2.18; May, \$2.38; June, \$2.43; average for the six months, \$2.09. Sugar sold as high as \$3 per 100 pounds in August, 1904.

The principal shippers of sugar in Habana are Zaldo & Co., Cuba 76; Galban & Co., San Ignacio 34; Francke Hijos & Co., Obrapia 35; Rabel & Co., Obrapia 25.

Sugar of the crops of 1903 and 1904 exported and on hand.

Port.	Exported.		On hand.	
	1903.	1904.	1903.	1904.
	<i>Sacks.</i>	<i>Sacks.</i>	<i>Sacks.</i>	<i>Sacks.</i>
Habana.....	451, 962	1, 313, 318	463, 382	32, 344
Matanzas.....	1, 127, 614	1, 253, 413	134, 086	15, 287
Cardenas.....	939, 493	1, 301, 695	332, 617	14, 241
Cienfuegos.....	1, 165, 782	1, 316, 060	40, 190	14, 901
Sagua.....	522, 166	488, 609	38, 192	1, 085
Calbarien.....	376, 237	553, 457	78, 118	2, 299
Guantanamo.....	287, 066	343, 516	6, 083	
Santiago.....	100, 082	101, 283	5, 997	2, 100
Manzanillo.....	275, 325	247, 037		
Santa Cruz del Sur.....		69, 040		
Nuevitas.....	143, 477	68, 938		
Gibara.....	299, 940	423, 020		22, 340
Zaza.....	7, 730		11, 590	13, 815
Trinidad.....	85, 880	72, 959		
Total sacks (320 pounds each).....	5, 782, 754	7, 552, 345	1, 110, 155	118, 412
Total in tons of 2,240 pounds.....	826, 108	1, 078, 906	158, 593	16, 916

The total crop of 1904 may be obtained as follows: Exported and on hand, 1904, 1,095,822 tons; consumed, January 1 to September 30, 1904, 32,721 tons; total, 1,128,543 tons; less sugar of 1903 crop on hand January 1, 1904, 94,835 tons; leaving for the crop of 1904, exported and consumed, 1,033,708 tons, against 972,891 tons in 1903.

The heavy rains during May prevented the harvesting of cane, or else, so experts on the question state, the crop of 1904 would have been at least 1,250,000 tons, at which I estimated the crop in my report of last year. The crop of 1905 will greatly exceed the crop of this year.

Molasses.—The production of molasses in Cuba during the first six months of 1904 amounted to 42,200,000 gallons, disposed of as follows:

Disposition of Cuban molasses, first six months of 1904.

Method of disposal.	Quantity.	Value.
	<i>Gallons.</i>	
Boiling molasses shipped to Philadelphia	7,600,000	\$608,000
Distilling molasses shipped to other points in United States	10,600,000	265,000
Distilling molasses consumed in Cuba	10,000,000	250,000
Distilling molasses shipped to Europe	9,000,000	225,000
Used for fuel and other purposes or unsold for want of transportation	5,000,000	.....
Total	42,200,000	1,348,000

To the foregoing should be added shipments made to the United States and Europe during the period from July 1 to December 31, 1903: To the United States, 3,053,630 gallons, valued at \$244,290; to England, 1,935,516 gallons, valued at \$47,388; total, 4,989,146 gallons, valued at \$291,678; making a grand total of 47,189,146 gallons of molasses, valued at \$1,639,678.

Messrs. R. Truffin & Co., Obrapia 32, Habana, are the principal exporters of molasses in the island of Cuba.

Rum and aguardiente.—Spirits produced from sugar cane amounted to 1,651,676 gallons, valued at \$219,434. Most of the rum and aguardiente went to Uruguay (550,990 gallons), Canary Islands (478,698 gallons), and England (301,961 gallons); only 29,782 gallons went to the United States.

Total sugar product.—The total value of the sugar products of 1904, therefore, was as follows: Raw sugar, \$50,668,995; molasses, \$1,639,678; aguardiente, \$219,434; total, \$52,528,107, against \$41,940,955 in 1903; \$30,863,524 in 1902, \$32,258,580 in 1901, \$17,603,839 in 1900, and \$19,206,815 in 1899.

TOBACCO CROP.

The tobacco crop in the past year was good in both quality and quantity, and may be safely valued at over \$30,000,000. The exports during 1903 were valued at \$26,046,431, against \$25,400,000 in the previous year. The exports of leaf tobacco in 1904 exceeded those of

the previous year by \$600,000. The total exports of leaf tobacco amounted to 40,977,946 pounds, valued at \$13,245,187, 24,128,430 pounds of which, valued at \$9,931,802 went to the United States, and 10,306,574 pounds, valued at \$1,921,079, to Germany, the next largest purchaser.

Tobacco stems, which are used in the manufacture of snuff, etc., were exported to the amount of 598,178 pounds, valued at \$9,959, principally to the United States, Argentina, and Germany.

Cigars exported numbered 205,244,298, valued at \$12,302,969, of which 45,769,422, valued at \$2,888,111, went to the United States; 28,388,074, valued at \$1,968,395, to Germany, and 92,559,817, valued at \$5,197,785, to England. Of cigarettes, 14,662,209 packages (each package containing about 14), valued at \$404,173, were exported during the year. Of these 287,767 packages, valued at \$7,055, went to the United States; 16,693,372 packages, valued at \$49,070, to Dutch possessions; 1,323,127 packages, valued at \$40,926, to British islands; 7,259,354 packages, valued at \$191,854, to Colombia, and 586,002 packages, valued at \$17,632, to Germany. Much of the remainder went to the Canary Islands. The export of cut tobacco amounted to 226,648 pounds, valued at \$81,031, of which the United States received 75,205 pounds, valued at \$23,583, and Colombia 57,283 pounds, valued at \$21,201.

Tobacco seed to the value of \$3,112 was exported to the United States.

The principal shippers of leaf and manufactured tobacco in Habana are as follows: Habana Tobacco Company, Cuban Land and Leaf Tobacco Company, G. Arostegui, Jose Suarez & Co., Luis Marx, Calixto Lopez & Co., H. Upmann & Co., G. Solomon & Co., Bridat Montros & Co., Federico Bauriedel & Co., Leslie Pantin, S. L. Goldberg & Son, Leob-Creagh Habana Company, B. Baustista & Co., Garcia & Co., Antonio Suarez & Co., Loeb-Nunez & Co., E. A. Kline & Co., H. J. Bernheim, Cuban-American Company, J. F. Berndes, Mark A. Pollock, Mendelsohn, Bornemann & Co., Sidney Rothschild, J. G. Prendes.

FRUITS AND VEGETABLES.

The pineapple crop during the fiscal year ended June 30, 1904, amounted in value to about \$1,250,000. The fruit found ready sale in the United States and at higher prices than in preceding years, owing to the fact that large shipments are now made direct from Habana to Chicago, instead of being all made, as heretofore, to New York, which naturally resulted in overloading the market in that city, and thus reduced the value of the fruit. The establishment of a pineapple canning factory in the vicinity of Habana would, in my opinion, be a profitable investment, as much of the fruit, in excess of

domestic needs, can not be shipped, especially after heavy rains. Other fruits, ripening either before or after the pineapple, and suitable for making marmalades, would permit continuous employment of help and machinery. The principal shippers of pineapples in Habana are A. Calafat & Son, Corrales 20; Manuel Lopez, Justiz No. 2; E. Heyman Sohn, Santa Clara No. 25.

A decided increase in the shipment of fruits other than pineapples, and in vegetables, is noted in 1904. The Cuban orange is a delicious fruit, and limes and lemons are of good quality and abundant. Tomatoes, sweet potatoes, onions, peppers, eggplant, okra, etc., were also up to expectation in quality and quantity and brought good prices. The value of the crop of fruits (exclusive of pineapples) and vegetables amounted to \$2,712,300.

DESCRIPTION OF CUBAN FRUITS.

Aguacate (alligator pear).—This is one of the most popular fruits in the Antilles; it is pear-shaped, green or purple, and often weighs 2 pounds. On account of the pulp being firm and marrow like, it is also known as vegetable marrow or midshipman's butter. A very good oil for soap comes from its seed. The tree is an evergreen about 25 or 30 feet high.

Banana (platano).—There are many varieties of this fruit, which takes the place of bread in all country families, being eaten raw or cooked in many different ways.

Caimiti.—This fruit is purple or dark green on the outside. It has a milky, fibrous meat, sweet and starchy, and a number of round, black seeds. It grows on a tree.

Chirimoya (custard apple).—This is a heart-shaped fruit, quite sweet, with a slightly acid taste, and very refreshing. It has a scaly exterior, and contains numerous seeds buried in a pulp. It is sometimes known as bullock's heart on account of its size and shape. It grows on trees 25 or 30 feet high.

Cocoanut.—This fruit grows in bunches of from 12 to 20 on a tree from 60 to 90 feet high. The nut when fresh contains nearly 1 quart of milk, which is very much esteemed by the natives for refreshment. The thick rind or husk surrounding the nut is used in making cordage, matting, brushes, bags, etc. The valuable oil obtained from the nut is too well known to need description.

Figs (higos).—Figs of all kinds grow luxuriantly.

Granadilla.—This fruit grows on the vine which bears the passion flower. The fruit is generally as large as a child's head. It is much liked by the natives, who use it in making refreshments and desserts. The meat is glutinous and contains many small seeds.

Guanibana.—This is a large fruit, about the size of a muskmelon, with many seeds, and fibrous meat having a delicate flavor. It is

used for making refreshments, ices, and preserves, and is also eaten in its natural state.

Guava.—The guava is a black, globose, pulpy fruit, with an agreeable acid flavor, and is used in making jelly, marmalade, etc. It is largely cultivated in tropical countries, there being two varieties—the red, or apple-shaped, and the white, or pear-shaped.

Lima.—The lima is somewhat like the lime, but has the flavor of the grape.

Lime (*limon citrus*).—The lime is the product of the *Citrus limetta* tree. The juice is used in cooling beverages in the Tropics, and is especially in demand in summer in higher latitudes. It is also boiled and used in flavors.

Mammee (*sapota*).—The mammee or sapota tree yields a fruit the juice of which resembles marmalade. It is known locally as the “maney colorado.”

Manocillo.—This fruit grows in clusters. It is a species of plum; it is tart, and has one fibrous pit.

Mango.—A fruit shaped somewhat like a pear, but attached to the tree by the larger end. The meat is fibrous and clings to the seed, somewhat as the meat of a cling-stone peach does. It is generally eaten in its natural state, but when green is sometimes boiled as a vegetable. Its flavor when ripe is a combination of apricot and pineapple. There are several varieties of this fruit. The tree is 30 or 40 feet high.

Orange. This fruit grows abundantly, in great variety, both cultivated and wild.

Papaya (*paw paw*).—The papaya is about 10 inches long, commonly of an oblong form, ribbed, and having a thick fleshy rind. It is eaten raw, or, when green, is boiled as a vegetable; it is also pickled. The tree is about 20 feet high and has large leaves. Meat boiled with a small portion of the leaf is made tender; or meat can be made tender by simply hanging it among the leaves. The seeds are used as a vermifuge.

Sapodillo (*plum*). This is a small brown fruit, with black watermelon-like seeds and juice, which disappears with incipient decay, when the fruit becomes very sugary.

HABANA FRUIT SHIPPERS.

The principal shippers of fruits and vegetables in the city of Habana are: Milan Alonso & Co., Lamparilla No. 2; E. Heyman Sohn, Santa Clara No. 25; Manuel Lopez, Justiz No. 2; A. Calafat & Son, Corrales No. 20.

FRUIT EXPORTS TO THE UNITED STATES.

Nearly all fruit and vegetables not consumed here are exported to the United States, except cacao, which is shipped in considerable quanti-

ties to Spain, Germany, England, and France. The value of the fruit exports to the United States during the years 1899 to 1903 was as follows: 1899, \$801,200; 1900, \$1,181,700; 1901, \$1,442,700; 1902, \$1,906,600; 1903, \$2,932,300. One of the finest fruit farms in Cuba is owned by an American, who has about 25,000 orange trees planted and will shortly plant 15,000 more.

FOREST PRODUCTS.

Lumber (mahogany and cedar principally) to the value of nearly \$3,000,000 has been cut, and over \$2,000,000 worth exported; of which about \$1,250,000 worth went to the United States and the rest chiefly to Germany and England. Dyes to the value of \$100,000 are exported to Russia, France, and Germany, and textile fibers to the approximate value of \$160,000 are shipped to Italy, Germany, and France. In forest products considerable increase is noted in exports. Since 1899 they have been as follow: 1899, \$1,059,900; 1900, \$1,265,400; 1901, \$1,356,100; 1902, \$1,874,800; 1903, \$2,528,600. The principal shippers of lumber from Habana are Moffett, Robbins & Co. and Aug. Grupe.

SPONGES AND SHELLS.

The value of shells, tortoise and other, gathered during the past year amounted to about \$75,000, and of sponges, \$500,000. Of the latter the United States received about 35 per cent and Europe the remainder, France being the principal buyer. The exports of sponges and shells in 1904 amounted to \$145,000 more than in 1899. The principal shippers in Habana are Chas. L. Delmas, Obrapia No. 25; Silveira & Co., Mercaderes No. 5; Federico Bauriedel & Co., Amara-gura No. 7, and Bridat Montros & Co., Mercaderes No. 35.

ANIMAL PRODUCTS.

Skins, horns, and hoofs of animals are almost entirely shipped to the United States, and the exports amount annually to \$500,000.

HONEY AND WAX.

Honey is shipped to Germany, the United States, France, and other countries. The amount gathered this year exceeds \$600,000 in value. About 80 per cent of the wax exported is shipped to Germany, the rest to the United States, France, and other countries; the total annual value is about \$500,000.

CATTLE INDUSTRY.

This industry, at one time one of the principal ones of Cuba, is to-day making rapid progress toward regaining its former prominence, and

figures largely in the amount of importations into Cuba. From the following table, covering the calendar years 1899 to 1903, it appears that the importations from Mexico in the five years exceeded those from the United States by nearly \$4,000,000, which I am sure would not be the case if our cattle dealers put forth a little more effort to gain control of the Cuban market. I add a list of names of the principal importers and suggest correspondence with them.

Value of the cattle imported into Cuba in the five years 1899 to 1903.

Whence Imported.	1899.	1900.	1901.	1902.	1903.	Total.
Mexico	\$3,151,900	\$2,390,300	\$2,382,600	\$2,341,300	\$1,738,900	\$12,005,000
United States	3,275,900	1,770,100	1,070,900	970,900	1,258,200	8,346,000
Colombia	2,060,200	1,489,600	1,870,900	1,141,700	1,672,900	7,225,300
Venezuela	1,076,600	879,400	2,574,900	313,900	1,370,400	6,215,200
Honduras	783,900	260,100	145,100	329,900	408,600	1,927,600
Porto Rico	538,900	490,900	312,200	200,300	171,200	1,713,500
Other countries	236,500	196,600	86,500	138,600	195,500	853,700
Total	11,113,900	7,477,000	8,443,100	5,436,600	5,815,700	38,286,300

It will be noticed that during the past five years Mexico has supplied about 33 per cent of all the cattle imported, and that the purchases from the United States, which exceeded those from Mexico in 1899, have steadily fallen off during 1900, 1901, and 1902, but appear to be again increasing, which supports the argument that if stronger efforts to do business are made the object desired will be gained.

There are thousands of acres of land in Cuba suitable for cattle raising which can be purchased at from \$1 to \$3 per acre. Cattle do well in this country. They fatten nicely and produce meat of good quality. The percentage of loss on account of sickness is small, and the short shipping distance from our Gulf ports in Texas, Louisiana, Florida, and Alabama should reduce losses on that account to the minimum.

The principal purchasers of cattle in Habana are Arroyo & Co., San Ignacio, 88; Betancourt & Negra, Monte, 342; Lykes Bros., Mercaderes, 22; Roscoe Morris, Aguiar, 72; Senior & Fuenmayor, Animas, 88; Silveira & Co., Mercaderes, 5; Whitacre, J. W., Concha and Ensenada; Fred Wolfe, Marina, No. 2.

MINING INDUSTRY.

The minerals most abundant in Cuba are asphalt, copper, iron, and manganese.

ASPHALT MINES.

Of asphalt there are rich beds to be found in the provinces of Habana and Pinar del Rio. In Habana Province are the mines known as Jesus del Potose and Santa Rosa, situated a little more than a mile to the south of Campo Florido. The Angela Elmira mine at Bejucal,

in the province of Pinar del Rio, and the Rodas Concepcion and Magdalena mines are located at the inner end of the bay of Mariel. At Bahia Honda the Santa Elena mine has a reputation for excellent asphalt; so has the Union mine at Guanajay. In Sancti Spiritus there are several asphalt mines; the ones best known are the Pozo Colorado and Amparo mines. During the past year considerable asphalt has been exported from Cuba, and as its quality is well spoken of an increase in exports can be safely predicted.

COPPER MINES.

There is scarcely any metalliferous locality in Cuba where copper is not found in greater or less quantity. In Pinar del Rio mention should be made of the Buenas Aguas, Recompensa, Union, Caridad, and the Cuba Western copper mines. In Habana Province we find the old mines of Bacuranao, and others at Jaruco and Minas. In Matanzas Province a number of copper mines have been located. In Santa Clara Province valuable beds of copper have been found near Cienfuegos and Santa Clara city. The most important of the old mines are those known as San Fernando and Santa Rosa, from which excellent ore has been taken. In Puerto Principe Province we find the mines of Bayatabo, between the cities of Puerto Principe and Nuevitas, also the Marion, the San Antonio del Cerro, and the Cubillas mines. In all these mines the prevailing ore was carbonate of copper, the extraction of which was found comparatively easy, because it is found at no great depth.

The most important province, however, for copper mining to date is Santiago de Cuba. The town of Cobre is built on very extensive beds of copper ore, which is also found at Bayamo, Sierra Maestra, Las Tunas, Holguin, and Jiguani. Competition from the mines of Chile and Rio Tinto, as well as those in the region of Lake Superior, has acted as a drawback to the copper-mining industry of Cuba, particularly as low-grade ore has never been handled successfully there.

IRON MINES.

Iron and manganese mines are of most importance at present, by reason of their being worked regularly and on a large scale in the province of Santiago de Cuba.

GOLD MINES.

In the province of Santa Clara several gold mines of more or less importance are said to have been located, the most promising, perhaps, being the Meloneras mine, near the village of Guaracabuya, in the district of Placetas. In the district of Holguin old gold claims have also been redenounced, but nothing can be definitely stated as

to the cause of their previous abandonment, nor, in fact, as to date of their working, which by some is said to be as far back as the time of the aborigines.

MARBLE QUARRIES.

The only marble of importance is that which is found in the two mountains east and west of Nueva Gerona, on the north coast of the Isle of Pines. The marble is of good quality, ranging from a good white statuary stone through various shades of blue-veined to dark gray. Specimens with pinkish tints are also found. Some of the marble is reported by experts to be suitable for the finest statuary, the color being the purest white. Other varieties of different hues are suitable for ornamentation and art, as they take on a good polish. The stone is free from cracks, and will furnish slabs of any size, the deposits varying from 5 to 25 feet in thickness, and being so situated as to meet all requirements of convenient and economical transportation to points of shipment on the coast.

SALT DEPOSITS.

A salt deposit exists near Salinas Point, Isle of Pines. From this point to the third Salinas Point there are large clear salt pits, without trees, easy to work, which increase in width for some distance.

OUTPUT OF CUBAN MINES.

The annual production of the number of mines actually operated, namely, 5 asphalt, 3 copper, 12 iron, 3 manganese, and 1 naphtha, give a total output valued at \$1,446,000, as follows: Asphalt, \$122,900; copper, approximately, \$13,068; iron, \$1,146,892; manganese, \$163,140.

NAMES OF MINES AND THEIR LOCATION.

The names of mines, the owners, location, and annual output in tons are as follows:

Asphalt. Union mine, located at Guanajay, Pinar del Rio Province; 10,000 tons annual product; owners Zardain & Aspuru. The Angela Elmira mine; located at Bejucal, Habana Province; annual output 3,000 tons; owners West Indies Company. The Maria Rayon mine, at Moron, Camaguey; output 180 tons; owner M. A. Glynn. The Amparo mine—owner Francisco Moreno—and the Desengano—owner Gerardo Abiegn—both located at Sancti Spiritus, Santa Clara Province, have an annual output of about 125 tons each.

Copper.—The copper mines in operation are located at Cobre, Santiago de Cuba. The Caridad and Concepcion are owned by Maximaliano Salcedo; the Mina Grande is owned by the Cobre Mine Company.

Iron.—The iron mines in operation are owned by two companies, namely, the Spanish-American Iron Company and the Juragua Iron

Company, all located at Caney, Santiago de Cuba Province. The Spanish-American Iron Company's mines, Lola, Lola 2d, San Antonio, and San Rafael, gave an output last year of 493,860 tons, while the Juragua Iron Company's mines, Abundancia, Firmena, Resolucion, Fomento, Jupiter, Union, Constancia, and Columbia, gave an output of 235,476 tons; the total output of iron being 729,336 tons.

Manganese.—The Vinedore and the Serallo mines, owned by the Ponupo Mining Company at Alto Songo, Santiago de Cuba Province, produced last year 26,352 tons. The Boston mine, at Caney, Santiago de Cuba Province, owned by the Standard Manganese Company, produced 6,267 tons. Total manganese produced during the year, 32,628 tons.

Naphtha.—At Rancho Veloz, in the province of Santa Clara, a mine known as San Juan de Motembo produced 60 tons of naphtha.

MINING LAWS.

In a pamphlet published by the Bureau of Insular Affairs of the United States War Department, entitled "The Mining Law," is quoted the law in force, which is that of July 6, 1859, with the modifications introduced March 4, 1868. This is the law in force in Spain and was declared in force in this island by royal decree issued October 10, 1883. The rules and instructions of July 24, 1868, and the law containing the new basis on which all legislation on mines was to rest in the future is also contained in the pamphlet referred to. The number of mines declared in Cuba exceeds 700, and the area covered is 70,000 acres. The manner of filing a mining claim and taxes to be paid are stated in Daily Consular Reports, No. 1751, published by the Department of Commerce and Labor, September 17, 1903.

VALUE OF PRODUCTS.

The following statement shows the value of the crops, minerals, animal products, etc., of Cuba in 1904:

Total value of Cuban products in 1904.

Articles.	Value.
Sugar, including molasses, alcohol, and rum.....	\$52,528,107.66
Tobacco.....	30,000,000.00
Pineapples.....	1,250,000.00
Other fruits and vegetables.....	2,712,300.00
Forest products.....	3,260,000.00
Skins, horns, and hoofs.....	1,600,000.00
Honey and wax.....	575,000.00
Sponges and shells.....	1,416,000.00
Minerals.....	—
Total.....	93,371,407.66

IMPORTS AND EXPORTS.

I am able to give data on imports and exports only to December 31, 1903, owing to the fact that returns covering the period to June 30, 1904, have not been received from two of the custom-houses. The following statement will give a general idea of the commerce of Cuba, which is certainly of sufficient consequence to awaken our people to the fact that there is a market for American products right at their doors, which to this date has been neglected by them and not canvassed in a thorough manner:

Value of the imports and exports of Cuba in the calendar year 1903.

Countries.	Imports.	Duties collected.	Exports.
AMERICA.			
United States.....	\$27,798,607	\$5,230,876	\$61,134,902
Mexico.....	2,658,085	354,952	107,477
Uruguay.....	1,934,110	737,341	110,928
Venezuela.....	1,372,983	184,470	2,180
Other American countries.....	2,372,387	424,528	1,433,838
EUROPE.			
Germany.....	3,921,956	976,688	5,370,806
Spain.....	9,572,446	2,911,400	1,451,620
France.....	4,435,822	923,970	1,134,372
England.....	10,799,775	2,715,062	6,540,834
Other European countries.....	1,867,528	385,438	811,368
All other countries.....	348,979	117,536	338,094
Total.....	67,077,676	14,912,261	78,486,409

Value of imports and exports of Cuba, 1899 to 1902.

Year.	Imports.	Exports.
1899.....	\$75,303,612	\$49,698,772
1900.....	70,079,214	51,342,326
1901.....	67,743,033	66,502,169
1902.....	62,183,464	64,948,804

A comparison of the imports for five years with the exports for same period shows the healthy and prosperous condition of the country.

When full returns come in it will appear that the imports from January 1 to June 30, 1904, exceed those of the same period of the year 1903 by \$7,000,000; of which the United States furnished over \$3,000,000, or about 43 per cent, an increase of a little over 1 per cent, which may be due to the reciprocity treaty existing between the two countries or to the general increase in imports due to the prosperity of the country.

RECIPROCITY TREATY.

The life of the reciprocity treaty is still too short to speak intelligently as to the benefits derived by the United States, but there is reason to believe that with a little more assistance through differ-

ential duties on a few articles (such as rice, paper, shoes, hardware, glassware, and earthenware) the increase of trade between the United States and Cuba will show beyond a doubt the wisdom of the policy, provided the application thereof is made by means of sufficiently wide concessions.

HOW TO INCREASE CUBAN-AMERICAN TRADE.

In Cuba commercial relations will always be at the front, the political situation being a question of secondary consideration, and in connection with commerce we must remember that there is no question of sentiment involved, and that the Cuban merchant, be he native, Spaniard, German, or Frenchman, will purchase his goods where, all elements of cost considered, they are the cheapest.

Close commercial relations have existed for years between the merchants of this country and those of Europe, and credits have been extended during that period varying from six to eighteen months on each bill of goods sold. Such relations do not permit immediate separation. Credits covering such length of time are not granted by our merchants. It is useless for them to argue the point at issue by advancing the reasons why it is not done in the United States. This credit system actually exists in Cuba; under it trade has developed, and it is difficult for a newcomer to change it, unless he offers some great offsetting advantages. Experience, as shown by plain figures, confirms these conclusions, and another year will tell whether or not the present reciprocity treaty affords the advantages needed.

Legislation alone, however, will not bring about the desired result—that is, a large increase of American trade; the active cooperation of our manufacturers is needed. Their representatives here should be men well acquainted with the goods they are selling and able to speak the language of this country (Spanish), so as to point out the superiority of the products of our soil or factories personally, instead of through a hotel guide or interpreter—a man without knowledge of the goods offered and usually insufficiently instructed in our language to properly interpret what the agent desires him to say.

The commercial houses of Cuba are, as a rule, of long standing, and their financial responsibility can easily be ascertained. If it is found satisfactory, credit, say for ninety days, should be extended, as, in comparing the respective cost of the article sold by American merchants and by European houses at long credit, the value of money here, that is, rate of interest charged (from 8 to 15 per cent), must be taken into account.

SHIPPING INSTRUCTIONS.

The following information has been collected largely from Messrs. Molina Brothers, custom-house brokers, in this city:

All goods arriving in the island of Cuba, whether dutiable or not,

must be entered in the custom-house of the port of arrival. The entry is made on a prescribed form, which is accompanied by the invoice or bill of sale, and the bill of lading issued by the carrying company. Both the bill of lading and the invoice must be in exact accordance with the goods they cover.

Great care should be exercised in making invoices to conform to the customs regulations, for if they are not properly prepared the entry is delayed, heavy fines are imposed (if not confiscation), and the merchant is at a loss to know what the goods are going to cost him; and besides, risks losing sales on account of late delivery. Several instances are known of merchants ordering from Europe, simply because European manufacturers comply with their instructions and present invoices properly made, thereby insuring the dispatch of their goods within the specified time of eight days after arrival. The customs regulations of this country are identical with those of the United States, and intending shippers should consult them, or employ experts in export trade in order to have invoices properly made.

The invoices must be made in quadruplicate, on good, durable paper, with ink, and must give the value of each article they cover, its gross and net weight, a description of package (if it is case, barrel, bundle, crate, etc.), and its gross and net weight. If packages are marked and numbered it should be so stated on invoice; all vague terms, such as fittings, machinery, supplies, should be avoided; everything should be clearly described. On invoices covering textiles it is absolutely necessary to state whether they are cotton, linen, wool, or silk. On invoices of such goods as hosiery, the net weight of the pasteboard boxes, the weight of the wooden box, and the total weight of all must be stated. Other requirements for various classes of goods are given below. In brief, goods should be so clearly and definitely described on the invoice that one can readily learn the number of packages, their marks and numbers, gross and net weight, and exact contents—quality, value, etc.—without the necessity of opening or seeing the packages.

The expenses incurred, if any, such as packing and boxes or cartage, should be stated, but not the steamer freight from the shipping port. If there are no charges the fact should be indicated by the letters "f. o. b." The invoices should state whether goods are products of the United States of America, and must be signed in ink by the firm. In case the shipper is a company or corporation, the title of the signer should be given (for example, American Paper Company, by John Smith, secretary). No initials will be accepted. Invoices must be clean and free from erasures and corrections.

These four invoices are presented to the Cuban consul, who will certify and return two of them to the shipper. The two returned to the shipper are then sent to consignee, with the bill of lading, by the

same steamer that conveys the merchandise. The bill of lading should give clearly the number of packages, gross weight only, and their mark and number, in full conformity with the invoice, and should state to whom they are consigned. If the bill of lading is to "order," it must be indorsed by the shipper, otherwise the custom-house will not deliver the goods.

I have prepared a pro forma invoice, showing how it should be made, if several articles are put in one package. It must be described as 1 box, barrel, etc., of sundries, gross weight must be given, and each article it contains must be described, somewhat as follows:

SAMPLE INVOICE.

One box sundries, containing—

Weight.	Articles.	Value.
5 pounds	5 pounds white beans, at 2 cents per pound	\$0.10
1 pound	1 pair men's black leather No. 9 shoes	3.50
10 pounds	1 shotgun	25.00
5 ounces	1 nickel-plated watch	5.00
1 pound	1 dozen hemstitched cotton handkerchiefs (white) 20 by 20	6.00
5 pounds	1 nickel-plated brass shower for bath	5.00
		44.60
	Charges: Boxing, 50 cents; cartage to steamer, 40 cents	.90
		45.50

Gross weight of box, 47 pounds.

Net weight of box, 22 pounds.

I certify the above are products of the soil or industry of the United States, and that this invoice is true and correct in all respects.

Samples.

(Signed)

JOHN DOE.

REQUIREMENTS ON INVOICES OF DIFFERENT GOODS.

Shoes: If for men, children, or women; size, number, and kind of leather.

Cotton or linen goods: If white, colored, printed, dyed, open work; number of threads.

Furniture: Kind of wood and nature of fixtures.

Iron: If cast, wrought, etc.

Brass: If nickel plated, etc.

Machinery: For what purpose (as, electrical); if agricultural describe (mower, plow, etc.).

Glassware: If cut glass, porcelain, etc., and if gilt.

Bricks: If plain, clay, glazed, etc.

Jewelry: If solid, filled, plated, etc.

Chemicals: Component material.

Patent medicines. No further description needed.

Paper: If writing, printing, or tissue, etc.

Books: Material of cover, if leather or cloth, and its weight, separate from the paper.

Sundries: If packed in one package, describe each article, with weight and value.

Silks: Net and gross weight and value only.

Woolens: Net and gross weight and value only.

Ironware: If enameled, etc.

Food stuffs: Weight and value.

Leather: Kind; patent, enameled, etc.

F. STEINHART, *Consul-General.*

HABANA, CUBA, *October 25, 1904.*

Values of merchandise imported into and exported from the United States in its trade with Cuba, calendar years 1895 to 1904.^a

Calendar year.	Imports.	Exports.
	<i>Dollars.</i>	<i>Dollars.</i>
1895	51,718,888	9,488,054
1896	24,708,849	7,286,613
1897	16,283,456	9,308,516
1898	18,321,517	10,750,257
1899	29,668,221	24,861,261
1900	31,747,229	26,934,524
1901	46,663,786	27,007,024
1902	48,619,588	23,061,623
1903	57,228,291	23,504,417
Eleven months, 1904	72,581,332	28,895,763

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

Imports into and domestic exports from the United States in its trade with Cuba, by articles, eleven months ending November 30, 1902, 1903, and 1904.^a

IMPORTS INTO THE UNITED STATES FROM CUBA.

Articles.	1902.	1903.	1904.
	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>
Copper—pigs, bars, etc., pounds.....	750,840	77,714	110,565
Fruits and nuts:			47,700
Bananas.....		596,124	337,850
Oranges.....lbs..	91,412	1,051	36,497
Sugar—not above No. 16, Dutch standard, pounds.....	1,718,755,099	28,527,616	1,051,727
Tobacco:		199,905	227,156
Leaf.....lbs..	20,098,672	8,594,846	37,533,841
Cigars, cigarettes, etc.....lbs..	404,355	2,285,304	2,561,597,259
Wood—mahogany, M ft.....	7,185	418,470	17,255,269
All other articles.....		506,519	8,410,549
		7,323	790,714
		4,924,832	2,539
		4,620,971	3,281,463
Total.....	45,425,957	55,971,949	158,183
			5,588,173
			72,581,832

DOMESTIC EXPORTS FROM THE UNITED STATES TO CUBA.

Agricultural implements	41,973	76,671	134,422
Animals:			
Cattle.....number..	60,102	1,009,771	92,780
Horses.....do.....	2,759	99,688	1,368,801
Books, maps, engravings, etc.....			156,242
Breadstuffs:			463,408
Corn.....bushels..	1,041,085	771,751	70,134
Wheat flour.....bbls.	518,723	1,911,117	80,864
Carriages, cars, etc.:			117,365
Cycles and parts of.....		10,768	15,514
All other and parts of.....		422,926	365,285
Coal:			
Anthracite.....tons..	11,544	46,471	20,306
Bituminous.....do....	337,488	908,784	370,330
		17,861	94,450
		1,135,170	436,720
			87,242
			1,221,854

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

Imports into and domestic exports from the United States in its trade with Cuba, by articles, eleven months ending November 30, 1902, 1903, and 1904—Continued.

DOMESTIC EXPORTS FROM THE UNITED STATES TO CUBA—continued.

Articles.	1902.	1903.	1904.
		<i>Dollars.</i>	<i>Dollars.</i>
Cotton manufactures of:			
Cloths.....yards.....	3,379,682	197,262	260,044
All other.....		3,757,909	11,341,502
Fruits and nuts.....		144,488	214,868
Iron and steel manufactures of:		67,812	58,127
Builders' hardware, etc.....			
Electrical machinery.....		308,510	329,570
Sewing machines.....		25,829	23,726
Steam engines (locomotives).....No.....		91,089	196,858
Typewriters.....	11	96,960	58,280
Leather, and manufactures of:		31,962	29,279
Leather.....		64,365	108,338
Boots and shoes.....		314,348	680,478
Naval stores:			
Rosin, tar, etc. bbls.....	12,184	25,273	15,016
Turpentine, spirits of.....galls.....	69,801	28,343	88,965
Oil:			
Mineral—			
Crude.....galls.....	5,854,096	306,230	4,713,766
Refined.....galls.....	1,343,217	168,096	1,802,179
Vegetable—Cotton seed.....galls.....	84,244	33,649	113,242
Paper, and manufactures of.....		212,992	230,560
Provisions, comprising meat and dairy products:			
Meat products—			
Beef, canned, pounds.....	40,852	3,544	58,528
Beef, salted, etc., pounds.....	81,706	4,801	19,585
Tallow.....lbs.....	122,452	6,744	559,802
Hog products—			
Bacon.....lbs.....	3,597,419	353,619	3,074,667
Hams.....do.....	4,199,511	439,910	4,773,414
Pork.....do.....	3,183,969	285,969	3,012,698
Lard.....do.....	22,836,774	1,981,434	14,668,691
Dairy products—			
Butter.....lbs.....	118,784	25,606	86,439
Cheese.....do.....	105,969	13,439	47,569
Seeds.....		5,464	5,418
Tobacco, manufactures of.....			
Wood:			
Timber.....		149,318	31,160
Boards, deals, etc., M feet.....	63,073	799,741	894,825
Furniture.....		245,062	310,804
All other articles.....		7,689,230	7,540,704
Total.....	19,589,111		19,806,494
			<i>Dollars.</i>
			612,663
			334,685
			87,823
			350,850
			23,092
			276,809
			202,462
			45,616
			186,207
			1,024,135
			53,982
			56,763
			516,166
			225,019
			34,071
			292,268
			7,437
			1,592
			24,870
			340,638
			428,888
			233,678
			1,436,646
			22,370
			11,746
			5,566
			112,696
			18,579
			1,280,864
			426,467
			10,220,306

AUTOMOBILES AND MOTOR BOATS IN FLANDERS.

(From United States Consul Mowrer, Ghent, Belgium.)

AUTOMOBILES.

About 270 automobiles are now being used in East Flanders, and the demand increases from year to year. The most popular machines are those of from 12 to 26 horsepower, with long bodies easily closed and offering all the comforts for touring. French makes only are sold in

this market, up to the present, for the following reasons mainly: The French machines are well adapted to Belgian roads, which are paved with Belgian block stone, even between small villages; they are cheaper than American machines, and the parts needed for repairs can easily be obtained from the factory if they are not carried in stock by the agent; the chauffeurs and mechanics are more familiar with the French types, and agents carry and exploit only French makes. Through the press the merits of American automobiles are attracting attention, however, and their introduction has already begun in Antwerp and Brussels.

The following statement shows the prevailing retail prices for the four standard French models (complete machines) sold here in Ghent:

Retail prices of French automobiles in Ghent, Belgium.

Make and power.	Price.	Make and power.	Price.
A.		C.	
6 horsepower.....	\$934	12 horsepower.....	\$2,219
9 horsepower.....	1,303	18 horsepower.....	2,992
12 horsepower.....	1,756		
14 horsepower.....	2,104	D.	
B.		8 horsepower.....	1,641
6 horsepower.....	965	12 horsepower.....	2,219
10 horsepower.....	2,026	14 horsepower.....	2,702
12 horsepower.....	2,123		
16 horsepower.....	2,289		

The selling agents for these automobiles are J. Honard-Van Pladius, Reep, Ghent, and Grand Garage Gantois, Rue courte du Joure 14, Ghent.

MOTOR BOATS.

The net work of canals in Flanders, which terminates at the seaports of Neuzen, in the Netherlands, and Ostend and Zeebrugge, in Belgium, offers an opportunity to use motor boats, and the demand is increasing from year to year. Several firms in this city manufacture motors for boats, but preference is given to the American motor. A few American motor boats and motors for boats have been imported into this district during the past year and all have given entire satisfaction. No regular agencies have yet been established, but in order that these motors may prove satisfactory, it is advisable that they be introduced by reliable parties competent to properly install them.

Firms in Ghent selling motors for launches are A. Van Rycheghem, Rue de Courtrai 12. and E. Eggermont, Petit Dock 9.

FRANK R. MOWRER, *Consul.*

GHENT, BELGIUM, *November 26, 1904.*

AUTOMOBILES IN ENGLAND.

(From United States Consul-General Evans, London, England.)

A Parliamentary return relating to motor cars (automobiles) was recently issued. It shows the number of motor cars, distinguishing motor cycles from other motor cars, registered by each registering authority in the United Kingdom under the motor-car act of 1903, up to the 1st day of January, 1904, and to the 1st day of April, 1904, together with the number of licenses under the act granted to drivers of motor cars by each authority at the same dates, distinguishing between licenses limited to the driving of motor cycles and licenses not so limited. This shows a rapid growth in the use of motor cycles as well as motor cars (automobiles).

These statistics, together with statistics of accidents caused by motor cars, motor cycles, horses, and horse-drawn vehicles, in the metropolitan (London) district (also from the Parliamentary return) are embodied in the following tables:

Number of automobiles and motor cycles registered in the United Kingdom.

In—	Up to Jan. 1, 1904.			Up to Apr. 1, 1904.		
	Motor cycles.	Other cars.	Total.	Motor cycles.	Other cars.	Total.
England and Wales.....	4,623	7,571	12,194	14,771	13,302	28,073
Scotland.....	243	588	831	866	1,087	1,953
Ireland.....	255	241	496	897	548	1,445
Total.....	5,121	8,400	13,521	16,534	14,887	31,421

Number of licenses granted to drivers of automobiles and motor cycles in the United Kingdom.

In—	Up to Jan. 1, 1904.			Up to Apr. 1, 1904.		
	For motor cycles only.	Other li- censes.	Total.	For motor cycles only.	Other li- censes.	Total.
England and Wales.....	1,530	12,857	14,387	4,478	31,982	36,460
Scotland.....	90	890	980	332	2,274	2,606
Ireland.....	107	273	380	342	1,252	1,594
Total.....	1,727	14,020	15,747	5,152	35,518	40,660

Accidents in the metropolitan (London) district during the year ending May 31, 1904.

Cause.	To per- sons or property.	To prop- erty.	To per- sons.	Persons injured.	Nature of accident.		
					Slight.	Serious.	Fatal.
Motor cars.....	1,624	1,281	462	510	424	73	13
Motor cycles.....	195	94	120	130	105	18	4
Horses.....	445	147	332	837	280	49	8
Horse-drawn vehicles.....	22,113	16,283	7,327	7,584	6,552	842	190
Total.....	24,375	17,805	8,241	8,561	7,364	982	215

The following clipping from the London Daily Globe is of interest to the American automobile trade. The writer, Mr. Charles Jarrott, and the Mr. Edge referred to in the communication, are prominent in the trade in England, and both are noted as drivers in speed contests:

I read with the greatest interest a letter appearing over the name of Mr. Edge in your columns, dealing with the question of England's position in the automobile industry. Mr. Edge's letter was intended to be a reply to the statement that England was not leading, and had not progressed in the same measure in which the sales of motor cars had increased in England. As the matter is of considerable interest, I have taken the trouble to go into the question very carefully, and I am sorry to say the actual facts disprove entirely the arguments put forward by Mr. Edge.

I am somewhat surprised that board of trade figures were the sole evidence adduced by Mr. Edge in support of his view that England's automobile trade is in such a satisfactory state, and that England is holding her own, and more than holding her own, in her effort to secure this great industry. One fact must be dealt with first, namely, that the users of motor cars have increased at the rate of at least 25 per cent the last two years. The output of the British factories is, compared with the number of British users, a comparatively small one, and at the highest estimate their output has not increased more than 25 per cent. On the other hand, in order to meet the big demand for cars, the Continental factories have trebled and quadrupled their outputs, with the result that firms who three years ago were sending 25 cars into England a year are now sending 200 and 300 a year to meet the demand in this country. I could mention five French firms who have established agencies in London, who together have sent into England alone this year over 1,200 cars. America, which country three years ago did not export into this country more than 400 cars a year at the utmost, now exports to one firm alone this number, apart from the other makers who have London agencies importing cars into this country.

Take the outputs of the various English manufacturing companies, and the figures are ridiculously insignificant in comparison with the figures I have mentioned, which include only a small number of the cars which are being sent into this country. And what does England export? How many cars has England exported into France? How many cars has she sold into Germany? Twenty cars would cover the number she has supplied to America at the very most, and this is apart from other countries who are supplied exclusively from the Continental factories, and the colonies who also get their supplies from France and America. The most expensive car in the world and the car with the highest reputation comes from Germany. The winner of the Gordon Bennett race came from France. The winner of the great Channel motor-boat race this year was a mixture of Germany and France, that is to say, a German motor in a French hull. What make of car won the big international race in America? A French car. What international motor competition has England won? Last year England held the international trophy for motor boats and the Gaston-Menier trophy. This year she holds neither, and yet we are told that the British industry is in a much finer position in the world's motor industry than ever it was before.

In making this refutation of the statements contained in Mr. Edge's letter, I do not do so with the idea of running down or decrying the efforts of England, but I do so in the wish to see England to the front and leading, and I do not think this can be obtained by congratulating ourselves on our present position. None are so blind as they who will not see, and stimulation is required instead of congratulation. There is a need that grows stronger every day for England to adopt the policy of progress and keen hardheaded enterprise if she wishes to be in the position which Mr. Edge would have us believe she now holds. And no one would be more happy and no one would welcome the time more gladly than myself, when, instead of having to buy motor cars made in France as the center of the industry for English requirements, I can procure in England as good a vehicle at as cheap a price as is at present constructed abroad.

H. CLAY EVANS, *Consul-General.*

LONDON, ENGLAND, *November 22, 1904.*

AUTOMOBILES AND GASOLINE IN ENGLAND.

(From United States Consul Boyle, Liverpool, England.)

There is no duty imposed on motor cars or gasoline imported into the United Kingdom. Most of the motor cars used in England are of English or Continental (principally French) make. The English motor-car industry is steadily developing. There are very few American motor cars in the Liverpool district, and those few are made by a company which has recently been advertising extensively.

Gasoline (or petrol, as it is called in England) is retailed at from 1 shilling (24 cents) to 1 shilling and 6 pence (36 cents) per gallon, according to locality, but it is very seldom that a motorist is charged more than 30 cents per gallon. That this price is higher than that charged in the United States is because all gasoline has to be imported, most of it coming from the United States. There does not appear to be any local regulation which would affect the use of gasoline here, except as to storing a large quantity, for which a license must be taken out, and certain regulations of the municipality must be complied with. The word "gasoline" does not appear in the Liverpool local regulations, but the city authorities say that reference is made to petroleum whose flash point is 73°. All stuff of such a nature must be deposited in sheds having only one floor and built in conformity with certain provisions. But the regulations do not prohibit the storage of petroleum or gasoline in quantities not exceeding 180 gallons in any store or warehouse of a retail dealer.

Motor cars are imported into England both with and without tires, probably the greater number having tires. I am informed by local dealers that the best tires are generally considered to be of German

and French make, but many purchasers of foreign-made cars prefer English tires, and it is in such cases that the cars are imported without tires. Since the Dunlop patents have expired it is believed that more of the Continental cars will hereafter be imported with tires. Motor cars are generally imported into this country entire—that is, not in sections—and come in closed boxes.

The condition of the roads and highways throughout England is generally very good. It is to be doubted whether Liverpool is good territory in which to open an agency for American cars or cars of any make. This neighborhood is not considered very good for motoring, and the agencies already in existence are, I should say, fully able to meet the demands. London, of course, is the headquarters of the motor-car trade, so far as sales are concerned, and there is already established in London an agency for a well-known American make of car.

Most of the dealers here purchase British-made cars direct from the manufacturers, but many of the large Continental makers have given exclusive British agencies to London firms, who in turn appoint subagents in provincial towns.

It is unfortunate for the reputation of American cars in this country that a number of the makes sent over have not been of the best—cheapness and showy looks evidently being considered more important than quality. There are American cars over here which have a good reputation, and I think there is a market for a thoroughly good American car at moderate price. There is no question about the quality of English-made cars, but as a rule they are too expensive. It is suggested that American manufacturers of motor cars come to some arrangement with reliable agents in London rather than endeavor to develop a direct trade with the retail buyer by correspondence and printed matter. In England, as in the United States, cars should be well advertised. Under no circumstances should American single-tube tires be sent to this market; it would be better to send cars fitted with “clincher” rims, suitable to take the English and Continental tires. Sample sets of English or Continental tires could be purchased in the United States, and American manufacturers of cars could then see that the rims were made to fit. Arrangements could easily be made to fit English or Continental tires on the cars after arrival on this market.

JAMES BOYLE, *Consul*.

LIVERPOOL, ENGLAND, *November 17, 1904.*

TRADE CONDITIONS IN CHINA.

(From United States Consul Anderson, Hangchow, China.)

American commercial men do not seem to fully realize that in order to gain trade in China it is necessary to study the needs of the country, especially in the line of cheap goods, and to supply the goods wanted rather than to send to China merely a surplus of what has been manufactured for American or other foreign markets. The needs of China are special. In making goods for its people the extreme poverty of the great mass of them must be considered, and it must be remembered that they know nothing of life on the American standard.

The general condition of the Chinese people at present is far better than it was a few years ago. A missionary who has been in Hangchow or in this province for more than half a century says:

The Tai P'ing rebellion cost China more than anyone who was not here before and after can realize. When the rebellion was finally put down, after immense loss of life and property, all the wealthiest and most fertile part of China was practically one great waste, and the people lived in a manner indescribable. Gradually they commenced to recover from the fearful blow, and the recovery has progressed in geometrical ratio. As a rule the people in this part of China are now able to buy good food and plenty of it; their clothes are better, and they are commencing to take more pride and comfort in their homes.

This gradual betterment in the condition of the Chinese people has meant a gradual increase in their buying power, and one of the chief reasons why foreign trade is increasing so satisfactorily at the present time is the fact that the people, as a mass, are commencing to be able to buy and use foreign goods. To a greater or less extent they have been ready to use certain foreign goods for some time, the question of cost being the only uncertain element. The increasing buying power of the people offers to foreigners an opportunity to sell goods such as has not existed before.

The Chinese as a people are disposed to turn to luxuries whenever they can afford to do so, and they look on foreign goods generally as luxuries. Without question there is a growing taste for foreign goods. For instance, even the coolie classes are disposed to use cotton tunics of foreign manufacture, in preference to those of home make, whenever they can do so, although the foreign garment is not so strong or so durable as the Chinese; but it is smooth and comparatively handsome and, for that reason, is preferred. The merits of foreign goods are quickly recognized.

Very seldom will the Chinese people discriminate between American and other foreign goods; they make their distinction between Chinese

and foreign goods. The retail and wholesale dealers may know where the goods are made, and the particular points trade in them involves, but the mass of consumers know nothing of this. They buy goods which suit them at a price they can afford. It is not to be expected, therefore, that goods from the United States which do not meet the peculiar requirements of the trade will be accepted simply because of their origin. Standing on their merits they will have a free and fair field. While several localities in China may be influenced by particular nations, as a whole there is a fair show for any nation having goods to sell.

The particular point to be remembered by American manufacturers is that there must be a cheap line of goods at low prices for purely Chinese consumption. Goods for the foreigners in China, whose trade is commencing to be of the most attractive sort, must be of high grade and compare favorably in quality and price with the best products of Europe, with which they are to compete.

Chinese trade in the past is not a proper measure for what it is to be in the future. The constantly bettering condition of the mass of the people, slow though the bettering process may be, promises greater and greater consumption of foreign goods. The awakening of China to western ideas and western civilization will probably revolutionize things; but it is not necessary to wait for this revolution to secure trade that continually increases on a natural and permanent basis.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *October 17, 1904.*

Value of trade of the United States with China from 1880 to 1904.^a

Year.	Imports.	Exports.	Year.	Imports.	Exports.
1880.....	\$21,769,618	\$1,101,383	1893.....	\$20,636,535	\$3,900,457
1881.....	22,317,729	5,447,680	1894.....	17,136,028	5,862,426
1882.....	20,214,341	5,895,983	1895.....	20,545,829	3,603,840
1883.....	20,141,531	4,080,322	1896.....	22,023,004	6,921,933
1884.....	15,616,798	4,626,578	1897.....	20,403,862	11,924,433
1885.....	16,292,169	6,896,600	1898.....	20,326,436	9,992,894
1886.....	18,972,963	7,520,581	1899.....	18,619,268	14,493,440
1887.....	19,076,780	6,246,626	1900.....	26,896,926	15,259,167
1888.....	16,690,589	4,582,585	1901.....	18,308,706	10,405,834
1889.....	17,028,412	5,791,128	1902.....	21,055,880	24,722,906
1890.....	16,260,471	2,946,209	1903.....	26,648,846	18,896,163
1891.....	19,321,850	8,701,008	1904.....	29,342,488	12,862,202
1892.....	20,488,291	5,663,497			

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

WRECKS ON THE GERMAN COAST.

(From United States Vice-Consul-General Murphy, Frankfort, Germany.)

The statistics contained in the following report are taken from volume 3 of Statistik des Deutschen Reichs, published by the Imperial Bureau of Statistics, at Berlin. The statistics cover the five years—1898–1902. The number of vessels injured or lost on the German coast during those years was 2,503, against 2,510 in the preceding five years. In view of the great growth in navigation these figures indicate that the precautions taken have lessened the dangers of this coast.

The following is a classification of the accidents during the decade:

Accidents on German coast, 1893–1897 and 1898–1902.

Character of accident.	1893–1897.		1898–1902.	
	Number.	Per cent.	Number.	Per cent.
Vessels wrecked.....	599	23.9	613	24.5
Vessels capsized.....	48	1.9	32	1.3
Vessels sunk.....	107	4.3	73	2.9
Collisions.....	1,241	49.4	1,372	54.8
Other accidents.....	515	20.5	413	16.5

This table shows that during the five years under consideration the number of wrecks and collisions increased, but that there were fewer accidents of other kinds. The number of accidents in stormy weather decreased from 386 (20.7 per cent) in the preceding five years to 368 (20.6 per cent). The number of accidents caused directly by storms was 302 (16.9 per cent), against 331 (17.7 per cent) in the preceding five years. The most disastrous storm was one from the northeast, on March 24–27, 1898, which caused the total loss of 9 vessels and more or less seriously damaged 7 others. During a northwest storm on October 24–26, 1899, 7 vessels were lost and 2 injured. There were also severe storms on September 22–23, 1899 (5 vessels lost and 3 damaged); March 21, 1899 (4 vessels lost and 4 damaged); March 2, 1899 (3 vessels lost and 5 damaged); May 9, 1900 (3 vessels lost and 5 damaged); July 3, 1898 (3 vessels lost and 2 damaged); and April 6, 1902 (3 vessels lost and 1 damaged). Little loss was caused by other storms.

Among the vessels lost or injured in 1898–1902 were 1,302 steam vessels (52 per cent), while in 1893–97 there were 1,186 (47.3 per cent). Of these accidents 853 (66 per cent) and 702 (59 per cent), respectively, were caused by collisions. Of the total number of vessels injured, 1,753 (70 per cent) in 1898–1902 and 1,791 (71.4 per cent) in 1893–97 were German. In the period under report 315 vessels (12.6 per cent) were lost, against 282 (11.2 per cent) in 1893–97. Of these 147 (46.7 per cent) and 146 (51.8 per cent), respectively, were wrecks.

In 1898–1902 the number of human lives lost was 306 (0.8 per cent of the total number of persons on board the vessels); in the preceding

period, 300 (0.8 per cent). In accidents where human life was endangered there were saved, during 1898-1902, 3,552 persons, against 2,199 persons in 1893-97. Details as to methods of rescue follow:

Number of persons saved in accidents on the German coast, 1893-1897 and 1898-1902, and the method of rescue.

Saved by—	1893-1897.		1898-1902.	
	Number of accidents.	Number of persons saved.	Number of accidents.	Number of persons saved.
Boats of endangered vessels	175	559	171	562
Self help	56	219	99	334
Pilots	10	46	4	9
Fishermen and people on shore	17	48	24	74
Pilots and persons on shore	1	10	1	2
Other vessels	149	920	116	528
Life-savers	82	542	63	342

In nine cases where there was danger to life 1,208 persons remained on board.

In 1898-1902 the number of accidents, according to the months in which they occurred, were, January, 119, or 6.6 per cent; February, 110, or 6.1 per cent; March, 185, or 10.4 per cent; April, 157, or 8.8 per cent; May, 131, or 7.3 per cent; June, 100, or 5.6 per cent; July, 109, or 6.1 per cent; August, 112, or 6.3 per cent; September, 144, or 8.1 per cent; October, 197, or 11 per cent; November, 212, or 11.9 per cent; December, 211, or 11.8 per cent. Of these accidents 770 (43.1 per cent) occurred in daytime and 753 (42.1 per cent) at night. In 264 cases (14.8 per cent) the time of the accident was not reported. In daytime there were 254 wrecks (41.4 per cent) and 278 collisions (42.4 per cent); at night 262 wrecks (42.8 per cent) and 332 collisions (50.6 per cent). For 97 wrecks (15.8 per cent) and 46 collisions (7 per cent) the time was not given.

Eleven accidents occurred during hurricanes, 74 during heavy storms, 283 during storms, 138 during heavy gales, 462 in moderate wind, 722 in light wind, and 90 in calms. In seven cases the character of the wind was not reported. In 576 cases the weather was bright and clear, in 56 dark, in 513 cloudy, in 316 foggy or misty, in 154 windy with rain, and in 158 there were rain or snow storms. In bright and clear weather there were 153 wrecks and 259 collisions; in dark and thick, 9 wrecks and 45 collisions; in cloudy, 146 wrecks and 181 collisions; in foggy, 167 wrecks and 106 collisions; in rain and snow storms, 61 wrecks and 41 collisions; in windy and rainy weather, 74 wrecks and 21 collisions; in thunderstorms, 3 wrecks. The weather during 3 collisions was not reported.

In round numbers the lengths of the German Baltic and North Sea coasts are 800 and 295 nautical miles, respectively. During the five years 1898-1902 the average number of accidents for each 10 miles of

coast was 10.23 for the Baltic and 32.85 for the North Sea. In the Baltic Sea, during the period under report, wrecks were more numerous than any other sort of accident.

Number of accidents in the Baltic and North Sea, 1893-1897 and 1898-1902.

Character of accidents.	1893-1897.		1898-1902.	
	Baltic.	North Sea.	Baltic.	North Sea.
Wrecks.....	263	330	331	282
Collisions.....	247	351	224	351
Ships cap-sized.....	24	24	21	24
Ships sunk.....	67	40	47	40
Other.....	239	276	195	276
Ships lost.....	113	169	153	169
Lives lost.....	108	192	142	192

GEORGE H. MURPHY, *Vice-Consul-General.*

FRANKFORT, GERMANY, *November 8, 1904.*

NEW AND CHEAP MOTOR CAR.

(From United States Consul Halstead, Birmingham, England.)

A writer in the Birmingham Daily Post gives currency to the astonishing bit of information, which he says he has on good authority, that a German firm is making, for introduction into England at the beginning of the new year, a four-cylinder motor car of only 9 horsepower, capable, however, of holding four persons, which is to be sold at the amazingly low price of just under £100 (\$486.65), and, if for only two persons, at \$73 less. If anyone could get up a thoroughly reliable, light, four-cylinder car for \$486, it would command the market here.

There are a number of single-cylinder motors on this market at £100 (\$486.65) which are not regarded as particularly reliable, and some very good French, American, and English light cars at from £150 (\$730) to £200 (\$973.30). The American cars of this type have a very good sale, and the trade in them—practically the only motor-car trade we have in Great Britain—is important. One of our manufacturers of more costly and larger type cars (Winton) has, however, recently opened a sole agency in London, and others are contemplating doing so, and our "White" steam car, a very beautiful piece of workmanship, reliable and of course expensive, has a good sale and is respected, but of all our little steam cars the Stanley is the only one, I believe, on the market here now. Of the small American petrol (gasoline) cars the Oldsmobile is doing very well, is much in favor, and is splendidly represented; the Cadillac commands attention, seems to be well pushed, and has been very much liked by those I have known who have bought it; the double opposed cylinder Ford car is beginning to attract attention, and its agency is an energetic one which has

long represented the American Duryea cars, but is now manufacturing the Duryea in this country.

The Birmingham Post's motor expert states that he gives the particulars regarding the new cheap German four-cylinder car in order that British manufacturers may know what to expect in the way of competition. His informant tells him that the cars are reliable and will be warranted for a definite period; that he thinks they are pretty sure to command a good sale, because for several years there has been a demand for a smooth running car at about the price named, but no English maker has come forward to supply it; and that evidently the Teutons are aiming to take the lead and skim the cream of the market, as they have in other branches of the trade. He continues:

Motoring would greatly increase if reasonable prices and rates of traveling were the fashion in place of high speeds and prices; and in the event of it being possible to produce cars that could be easily and deftly handled, at about the prices above mentioned, which would travel at an average rate of 12 or 15 miles an hour, a capital business could be done. Practical men in the motor world have declared that this is possible, and one can not help thinking that the time has arrived when, with the aid of repetition work and homogeneity of pattern, vehicles of this description could be put upon the market. Perhaps the threatened German "invasion" will do something to hasten greater practicability in motor manufacture, and 1905 will see the advent of a car which may please the taste and suit the pocket of the middle-class folk, who can not afford and do not care to go the pace of the people who own automobiles to-day.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *November 4, 1904.*

MEDITERRANEAN COAL TRADE.

(From United States Consul-General Skinner, Marseille, France.)

The coal imports at the port of Marseille during the first six months of 1904 were as follows: British Cardiff, 318,405 tons; British gas coal, 56,867 tons; German industrial, 49,748 tons; American, 3,682 tons; total, 428,702 tons. The total receipts of coal from all sources at this city during 1903 were 1,774,000 tons, of which 956,099 tons were of foreign origin. Of the foreign coals, 484,620 tons were taken up by navigation trade.

The domestic production of coal in 1903 was considerably in excess of that of any previous year, the recently announced figures being as follows: 1901, 32,325,000 tons; 1902, 30,000,000 tons; 1903, 35,000,000 tons. The French consumption in 1903 amounted to 47,000,000 tons, the excess over the quantity produced being supplied by Great Britain, Belgium, Germany, and the United States.

Standard navigation coal is now being sold in Marseille under a local agreement, by which the price is maintained at 22s. 6d. (\$5.48). British industrial coals have ruled lower, but are being undersold by German coals, which accounts for the growing volume of receipts from German sources throughout the Mediterranean. The freight on Westphalian coals by the Rhine to Rotterdam (\$1.10) enables them to be put on board at Rotterdam at from \$1.93 to \$2.02 per ton. From Rotterdam to the Mediterranean the freights are about the same as on British coal, but there is not any export tax. A Westphalian syndicate has established selling agencies at Marseille, Nantes, St. Nazaire, and Caen. The exports from Germany to France by land and sea have increased as follows: 1901, 1,565,000 tons; 1902, 1,718,000 tons; 1903, 2,065,000 ton. Marseille received 28,000 tons from Germany in 1902, and 115,000 tons in 1903. The prospect is that at the end of the year the local selling agreement will meet German prices in every respect.

It is understood that German shippers are planning a general invasion of the Mediterranean next year, as a means of relieving domestic congestion. A depressed German iron market has compelled the miners to force their coal upon the export trade at less than domestic rates or to suspend operations. Special advantages for rail and ocean transportation are expected to favor the former course. Genoa, a port frequented by numerous German vessels, is to be the principal point of attack. It is proposed to screen the German coal upon its arrival, dispose of the best to interior consumers, and look to German navigation companies to take the rest.

The United States has lost interest in the Mediterranean market for the present. As I have frequently pointed out, our shippers can enter this market profitably only under exceptional circumstances, when prices are low at home, and freight rates reasonable. So long as our coal companies live in the present only, they will have occasional speculative opportunities to sell coal in Europe. Prudent operators must perceive, however, that with our production increasing at its present rate, the time will inevitably come when a foreign market must be sought and retained permanently. When that time comes, either the mine owners or the railroads for them will provide cheap ocean transportation under conditions which will enable them to make long-time European contracts. If profits can not be found in transportation, they will have to be found in mining.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, November 5, 1904.

WINTERING IN SWITZERLAND.

(From United States Consul Washington, Geneva, Switzerland.)

In view of the regular and steadily increasing income which the section of Switzerland embraced by this consular district derives from what may be denominated the tourist interest, the growth of a winter season here is worthy of remark. Until a comparatively recent period the close of the summer season, prolonged into the fall for a greater or lesser period, according to the weather, marked the end of that profitable period when the foreigner contributed his dole, except possibly in Territet and Montreux, at the other end of the lake, which, protected from the strong "bise" (northeast wind) and having little fog, have perhaps more of a winter than a summer season.

What attention is especially called to is the increasing popularity of the mountains in the winter. Ten or a dozen years ago there was no winter season at such places; there were a few sanatoriums for sufferers from lung troubles and certain nervous disorders. Now a dozen thriving resorts exist; costly hotels have been constructed from which invalids with diseases of a contagious nature are excluded, and opportunities for winter sports are offered in all ways that energy and ingenuity can devise.

A few years ago the village of Chateau d'Oex, in the Canton of Vaud, had a small summer colony, and a modest hotel of the "chalet" description lodged most of the visitors. In winter it was deserted. A fairly large, steam-heated, modern hotel, and several smaller hostels are now open. At this early date not an apartment or chalet may be had; they are all rented for the winter season. A project is on foot for the erection of a very large hotel, and the double season is what makes the venture likely to be profitable. At the Lac de Joux, in the Jura Mountains, at the elevation of Chamonix, 3,444 feet above Lausanne, a modern hotel, with steam heat, was constructed some three years ago. It does fairly well in summer, but every room is already bespoken for the winter months. The same company will erect another and larger hotel. At Les Avants and Mont Pelerin, in the mountains above Vevey, there are new hotels, open also in the summer, but built as much or more for the winter season, and one of the largest and most costly hotels in Europe, the Caux Palace, was built two years ago at Caux, above Territet (which is 3,600 feet high), and has been full during the past two winters.

A noticeable result in this increasing winter season is that it has had a certain definite effect upon the Geneva hotel industry. People stay later, intending to go to the mountains as soon as the snow falls; they come down from the mountains during spells of bad weather for

the theater, shopping, etc., and it all works to the benefit of the city. It further seems to have increased the number of those who stay the winter through in Geneva. Last season a large and new hotel on the quay just above the consular office remained open all winter, and seemed about as prosperous as during the summer; and this year, for the first time since it was built, the Hotel National, perhaps the largest hotel in Geneva, is to remain open all winter. Rates, generally speaking, are higher in the mountain resorts in the winter season, but are less in Geneva. At Territet and Montreux they are also higher in the winter.

HORACE LEE WASHINGTON, *Consul.*

GENEVA, SWITZERLAND, *November 14, 1904.*

MARSEILLE GRAIN TRADE.

(*From United States Consul-General Skinner, Marseille, France.*)

It now appears probable that Marseille will import from 800,000 to 900,000 tons of wheat during the present year, of which one-fourth will be hard wheat, or macaroni wheat, as it is commonly known in the United States. The usual annual importation at Marseille is from 500,000 to 600,000 tons. The United States seems to have dropped out of this market completely. Even American hard wheat, cultivated in the first place largely in response to a demand from this city, has not been offered, the crop being almost entirely taken up at home. The following table shows the amount of wheat imported into Marseille during the first half of 1904:

Imports of wheat into Marseille, first six months of 1904.

Source.	Soft.	Hard.	Total.	Source.	Soft.	Hard.	Total.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>		<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Russia	254,721	41,270	296,991	Australia		1,148	1,148
Roumania	9,431	8,288	17,719	Argentina	2,509		2,509
Bulgaria	2,624	8,947	11,571	Algeria and Tunis.	35,761	51,705	87,466
Turkey		1,294	1,294	Various	44	906	950
Syria		1,297	1,297				
India	3,096	11,878	14,973	Total	308,175	126,733	434,908

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *November 5, 1904.*

INTERNATIONAL COMPETITION FOR CANAL-BOAT LIFT IN AUSTRIA.

(From United States Vice and Deputy Consul-General Hogue, Vienna, Austria.)

In April, 1903, the imperial royal ministry of commerce at Vienna advertised for competitive projects for a canal-boat lift of great height for the Danube-Oder Canal, near Prerau, Austria; the competition to be international and open to all. The conditions to be observed were contained in 16 paragraphs. The height of the lift is to be 35.9 meters (nearly 118 feet), and the apparatus to be capable of lifting full laden or empty boats up to 67 meters (219.8 feet) in length, 8.2 meters (26.9 feet) in width, and 1.8 meters (5.9 feet) in depth, and to pass at least 60 such boats, 30 in each direction, every twenty-four hours, with as little waste of water as is compatible with economical operation of the lift.

The official newspaper, the Wiener Zeitung, in which the advertisement and conditions were printed, also contained the information that the printed requirements were obtainable at the Austrian embassy at Washington, D. C., at the Austrian consulates-general at New York and Chicago, and at the Austrian consulates at San Francisco, Philadelphia, and Pittsburg. Notwithstanding, American civil engineers made application direct to the American consulate-general at Vienna, Austria, for printed requirements, with the remark that they could not obtain them in the United States. Valuable time was thus lost, which, added to the time necessary for transmission, handicapped American competitors and compelled them to prepare their plans in haste. The time set for presenting the projects at the ministry of commerce expired March 31, 1904.

Three prizes of 100,000, 75,000, and 50,000 crowns (\$20,300, \$15,225, and \$10,150) were offered for the best three projects; besides which the Government reserved the right to retain any other project it desired, paying 25,000 crowns (\$5,075) therefor.

The ministry of commerce received 231 projects, the greater number in the last two or three days of March, but also a few in April; all were numbered in their order as received. Each project bore a pseudonym, and these with the names of the competitors were contained in sealed envelopes, to be opened after the prizes were awarded.

The jury of nine chosen by the Austrian Government was international, Germany, France, and England, as well as Austria, being represented. It commenced its work April 18, 1904, and completed its task and submitted the itemized report to the Government in the latter part of October. It made verbal report through its spokesman, Professor Riedler, of Berlin, in a session held October 29 and presided over by the minister of commerce, in which the prizes were awarded, as fol-

lows: The first prize, with one dissenting vote, to a group of five Austrian machine manufacturing establishments. The second prize, with three dissenting votes, to a group of Austrian and German machinery establishments and engineers. The third prize was not awarded. Nine projects were honorably mentioned for their merit, three of which were recommended for purchase by the Government, though not by unanimous vote; but none of these were admissible under the conditions for a prize. It is not specially stated in the report whether the projects received after March 31 were admitted for competition or not.

The ministry of commerce issued a printed report showing that 231 projects were received; that 90 of the 231 projects were rejected in the session of the jury held April 23 as being inadmissible for competition by fault of outward form, or as showing their unsuitableness at a glance; 138 projects were rejected in sessions held April 27 and 30, May 26, June 3 and 11, as being incomplete or impracticable. Thus 3 projects remained for further examination, one of which, with 2 dissenting votes, was finally rejected, leaving the third prize unawarded for want of a third suitable project. The report does not state how many projects the different countries furnished. The projects passed upon by the jury are soon to be publicly exhibited in Vienna.

ALVESTO S. HOGUE,

Vice and Deputy Consul-General.

VIENNA, AUSTRIA, *November 21, 1904.*

IMPROVEMENTS IN VENICE.

(From United States Consul Bliss, Venice, Italy.)

CITY IMPROVEMENTS.

The proposition to build a bridge to the mainland, which agitated the city's population a year ago, has been definitely defeated. The work of rebuilding the Campanile has progressed very slowly, and at this writing threatens to cease for lack of funds. Extensive repairs are being made on the exterior and interior of the Ducal Palace and on the arcades of the Piazza San Marco; several church campaniles, which gave apprehension of falling, have been reenforced. Government repairs are somewhat in jeopardy, owing to a lack of funds, but it is presumed that this is but a temporary condition pending legislative appropriation.

TELEPHONE SERVICE.

In May the Italian Government assumed control of the telephone system of Venice, the bad service and high rates of the private management calling forth a strong protest from the subscribers. The annual charge for telephone apparatus has already been reduced from

\$40 to \$32, and the service is greatly improved, connections being made without delay. A plan to connect Venice and Trieste by telephone has been suggested.

NEW FLOATING DOCK.

On August 30 a new floating dock was towed into the harbor of Venice, and will be added to the repairing facilities of the port. The length of the dock, when above water, is 364 feet, or, not including the bow and stern, 324 feet. Its smallest draft, when empty, is 3½ feet, while its largest draft is 37 feet. The lifting power is from 4,700 to 5,200 tons, and the dock can be used for vessels of drafts up to 23½ feet. There are 32 water-tight compartments, each provided with independent valves for filling and emptying; on each side are three structures made of steel, the center ones containing the mechanism required for handling the valves, the others serving as office and storerooms, sleeping rooms for the crew, etc. There are two boilers and four engines (two on each side), and four centrifugal pumps, with their axles placed vertically on the floor, and acting so as to pump out the water directly.

ELECTRIC-LIGHT PLANT.

Reference has been made in recent annual reports to the use of the water power of the River Cellina for electrical purposes. The work is not yet terminated, but the company definitely promises the completion of the dam by the beginning of 1905, when the power at Venice will be 7,000 horsepower, while the utilization of the first rapids, which will shortly follow the completion of the dam, will give at this city 10,000 horsepower, and 13,000 at the generating station. The later utilization of the second rapids will, of course, give an added power. At Venice 1,500 horsepower will be used for illuminating, and the remainder for industrial purposes. Along the line of conduit are towns and populated districts where already contracts for supplying power have been made, and others are being undertaken. On the completion of the works, the price for electric energy will be a fraction over 9½ cents per kilowatt per hour.

The starting of this plant naturally opens a market for electrical machinery, articles of installation, and house fixtures. A carload of catalogues, however, will serve no purpose toward securing the sale of goods. Merchants want to see the article for sale to be convinced that it is better than what the German and English are selling; this can only be done by a salesman canvassing the district. The electrical manufactures of the United States, by reason of their excellence, could easily predominate in the market of Italy, where the industry is making rapid advances, and it would be but a neglect of an excellent opportunity should this occasion not be seized by Americans.

ROBERT WOODS BLISS, *Consul*.

VENICE, ITALY, *November 1, 1904.*

WINE MANUFACTURE.

(From *United States Commercial Agent Price, Jerez de la Frontera, Spain.*)

For some time past French chemists have been studying a substance which exists in certain wines. It is a kind of sugar produced by fermentation. It forms quicker in musts that do not possess many fixed acids. When the wine is drawn it is sweet, but this sweet taste soon turns to a bitter sweetness, owing to the volatile acids formed, principally by lactic acid. The principal defect in this wine to the merchant is that it is slightly turbid and difficult to clarify. The remedy for this is easy. There should be perfect alcoholic fermentation. The grape must be collected at the proper time and the must should possess an acidity of 8 to 9 per quart. If such is not the case there should be added from 20 to 25 grams (309 to 386 grains) of tartaric acid per hectoliter (26.417 gallons). New yeast should then be added and the must finally collected at a temperature between 20° and 25° (68° to 77° F.). The wine should then be pasteurized for two minutes at a temperature of 60° (140° F.).

CLARIFYING WINES.

There are many articles used for the clarifying of wines. Those of animal matter are either of an albuminous or a gelatinous nature, and all possess the property of forming insoluble compounds. The principal of these articles are white of egg, blood, milk, casein, gelatin, and isinglass. The whites of eggs are composed of nearly pure albumen and form an excellent substance for clarifying, as they coagulate quickly and carry away all the impurities. The eggs must be fresh and only the white used. The operation is very simple; it consists in breaking the eggs and whisking the whites with 150 or 200 per cent of water containing table salt, or, what is better, a little tartar in solution. From three to four whites are sufficient to clarify a hectoliter (26.417 gallons) of wine. The whites after being whisked are mixed with a little of the wine and poured into the whole, which is stirred. The mixture is then allowed to settle and afterwards poured out. When fresh eggs can not be had, dry albumen can be used, but care must be taken that it has no smell and has been kept in a dry place. The operation is the same as the foregoing. The quantity of dry albumen to be used is from 10 to 12 grams (154 to 185 grains) per hectoliter (26.417 gallons).

Blood in some cases is a powerful clarifier, but it must be used with a certain precaution. It is cheap and easily obtained, but should be used in small quantities only, say from 100 to 200 grams (3.5 to 7 avoirdupois ounces) per hectoliter (26.4 gallons). Blood discolors; hence red wines clarified with it lose their color. Too much blood used gives the wine a bad taste. Blood putrefies easily, because it contains much

nitrogenous substance, and is apt to make the wine sour. On this account blood is used only for new wines having large quantities of coloring matter.

White gelatin is the best clarifier for red wines. The quantity used is 10 to 15 grams (154 to 231.5 grains) per hectoliter (26.4 gallons). It must be dissolved in a little water at 40°. It is better to add 4 to 6 grams (62 to 93 grains) of tannin per hectoliter (26.4 gallons) after clarifying. Isinglass is preferred at present for clarifying white wines. It dissolves almost entirely, when a little tartaric acid is added. The French sell ready-made clarifying articles prepared from pure gelatin and isinglass, sterilized and concentrated by a special process and guaranteed free from all articles prohibited in the preparation of wines.

M. M. PRICE, *Commercial Agent.*

JERES DE LA FRONTERA, SPAIN, *November 19, 1904.*

CANNON DEFENSE AGAINST HAIL.

(From United States Consul Covert, Lyon, France.)

Mr. Joseph Chatillon, president of two agricultural societies in this region and of the Hail Cannon Society of Limas, has recently prepared for publication a report on the use of the cannon during the last year. I have been favored with a perusal of the advance sheets, from which I condense and translate the most important points.

The report deals with the experience of 28 cannon-firing societies, which used 462 cannon in a number of storms. After each storm a report was sent to the president of the agricultural society of the district. It was printed and then distributed for correction to all the farmers in the district visited by the storm. The report contains two tables, giving a detailed statement of the damages occasioned by hail storms during a period before the cannon were used and after. During fifteen years before any cannon were used the losses from hail amounted to 13,328,003 francs (\$2,572,316). These figures were obtained from the public offices in which accounts were kept, as the poorer grape growers were indemnified from a public fund for losses incurred by storms. The author of the report states that the entire losses of the wine growers were not compensated, and he thinks that the total damages amounted to not less than 16,000,000 francs (\$3,088,000). During the five years in which the cannon have been in use the losses from hail in the same department have aggregated \$159,412. During the year 1904 these same sixteen communes sustained no losses whatever, a fact which is attributed entirely to the use of the cannon. The writer of the report says:

We base our confidence in the efficacy of the firing on the fact that the thunder and lightning ceased, the wind abated, and the clouds disappeared under the firing of the cannon, and a mild fall of rain and soft snow succeeded. These facts are undeniable.

The report reviews the results of the firing in 28 storms during the months of April, May, June, July, and September. The results are generally the same—cessation of the thunder and lightning, dispersion of the clouds, and a slight fall of rain and snow. Where no cannon were used the hail fell and caused serious damages. "The communes not defended by cannon suffered enormously." In speaking of one storm, the report says:

This storm was literally arrested at the east on the boundaries of the firing. In the northwest and a little distance from the cannon a hurricane swept over the country with violence, everywhere causing great damage.

The mayor of one commune writes that the "firing was useless in his section on account of the small number of cannon." It is stated that in one or two other communes the firing was commenced late and was ineffective, but that it rendered the storm less destructive in the adjoining communes where it occurred later. This was in an isolated section of the country where there were no cannon in the adjoining communes, and the storm fell upon it with all its force.

The report contains several pages on the storm of July 22, 1904, which caused great damage in some parts of the country not protected by the cannon. The description sounds like an account of a battle. I translate a few lines:

This storm broke out at about 4 o'clock in the afternoon over our field of cannon, and lasted about two hours. Suddenly, after having attacked our defenses at Bully and at St. Germain-sur-l'Arbresle, it changed its course to the east. Then at Lozanne it deflected to the northeast, continuing to cover its passage with ruin and disaster.

This hurricane caused incalculable damage in 29 communes. Two communes, Lozanne and Belmont, were entirely desolated, "but they had but a few cannon, one 6 and the other 8. They are separated by a great distance from the country that is provided with cannon." The mayor of Lozanne, who is the president of the society for defense against the hail, wrote that his neighbors found themselves upon the edge of the communes where there was no defense against the hail and were unable to resist a storm of such violence. He says: "During the first few minutes of the storm the firing was followed by the falling of a few soft hailstones, and everybody noticed, even in that general storm, that the thunder and lightning diminished as the firing continued, and that the diminution was caused by the cannon." In several places all traces of vegetation disappeared, and the consternation was great in the wine-growing communes. The mayor of Belmont reports that the firing was powerless in his commune on account of the small number of cannon.

The report mentions several localities where the firing was very active, and it says the hail was checked when the firing commenced.

In the country known as Arbresle there were, from all accounts, but few cannon in use, and the destruction from hail was widespread and disastrous. The great Beaujolais wine-growing district fairly bristled with cannon, and while there were many storms the losses from hail and wind and rain were infinitesimal.

The officer at the bureau of agriculture in this city informs me that he sold the powder to hail-firing societies, and that where they bought but little powder the damages from the storms were very great. He informed me that the National Government provided powder for the wine growers at cost. The secretary says that he does not think it yet fully established that the cannon firing protects the vineyards against the hail, but the farmers have unbounded faith in it, and this winter they will organize to carry on a more general campaign in the coming season.

In the great Beaujolais wine district, where, as has been stated, the country "fairly bristled with cannon," the farmers say that they found it necessary to fire only on the boundaries of the large vineyards and that, as a rule, but very little firing occurred in the center of the field. I have met a dozen or more large wine growers who assert emphatically that they have not the remotest doubt of the efficacy of the cannon to destroy the hail in the clouds and to turn it into a mild rain.

The use of cannon against the hail will undoubtedly continue in France until some authority appointed by the Government shall assume control of the experiments and demonstrate its impotency, if such a thing be possible. The farmers of Arbresle, where but few cannon were used, are preparing to wage a more effective campaign against the hail next year. Their president and the other officers of their societies are of the opinion that the sole cause of their losses this year was the failure to use a sufficient number of cannon.

JOHN C. COVERT, *Consul*.

LYON, FRANCE, *November 15, 1904.*

DANISH LITERARY EXPEDITION TO GREENLAND.

(From United States Consul's letter, Copenhagen, Denmark.)

The Danish literary expedition to Greenland, led by Mylius-Erichsen, of Copenhagen, has returned to Denmark after two and one-half years' residence among the Greenlanders. Some statements by this explorer to representatives of the public press are of general interest. The expedition, according to Mr. Erichsen, accomplished all it set out to attain—that is, a knowledge of the Greenlanders in every part of the country, from Cape Farewell to Cape York, acquired by living with them in their own way. He says:

By sharing their conditions and modes of living we secured their full confidence, and in our presence they laid aside that extreme politeness which they assume in the presence of Europeans. They have not only given us their sagas and songs, which we were so desirous of procuring, but they also confided to us their desire for improved social conditions in Greenland. I have, after two and one-half years' stay among them, returned home convinced that the Greenlanders not only desire to direct their own affairs, but are in a suitable condition to do so.

A reform which should be inaugurated at once is helping the Greenlanders to carry on fishing and whale catching. There is a superabundance of cod, and there is no reason why the Greenlanders as well as the Icelanders^a should not be able to export dried fish. During our trip we saw five of the monstrous Greenland whales, and since they are to be found, why not hunt them? A single Greenland whale is worth 50,000 crowns (\$13,400) and would furnish sufficient food for an entire colony for one winter. A trading place should be established at Cape York, where blue foxes, ice bears, and narwhals are to be found. Blue fox skins are worth \$13.40 each, but how is this dead capital to be turned to the good account of the Eskimos?

The Bernburg expedition is now searching for minerals in the mountains of Greenland, and there are plenty to be found, but I agree with the man who said, "There is great wealth to be found in Greenland, but more in the sea than in the mountains."

TRADE OF GREENLAND.

The foreign trade of the Greenland colony is a Government monopoly. The value of the whole turnover in 1902 was \$337,144, the value of the exports to the mother country being \$227,264, and of the imports \$109,880. The exports in the order of their value consisted of fish oil, cryolite, hides and skins, feathers and down, fish. The imports consisted of grain and breadstuffs, groceries, coal, manufactured goods, meats, spirits. Most of the cryolite mined in Greenland is shipped to the United States, and is employed in the manufacture of soda.

VITAL STATISTICS OF GREENLAND.

According to the census of October, 1901, there were 11,893 inhabitants in Greenland, an increase of 1,377 since 1890. This increase includes 441 Eskimos discovered by Captain Holm in 1894; the actual increase in the eleven years (1890-1901) was, therefore, 936, or 8.9 per cent. The European population of Greenland in 1901 was 272; in 1890 it was 309. No real city exists in Greenland. The largest villages are Sukkertoppen with 382 and Julianshaab with 393 inhabitants. The census shows that the East Greenlanders are of pure Eskimo blood. The remainder of the population, however, is greatly mixed. The birth and the death rate of Greenland varies greatly from year to

^aExports of fish, including whale and shark oil, from Iceland in 1900 were valued at \$1,367,120.

year. The death rate is greater in the south than in the north; consumption claims 31 per cent in the north and 28 per cent in the south. About 13 per cent of the deaths are from accidental causes, chiefly drowning. In 1901 about 84 per cent of the population sustained themselves by seal catching, fishing, and hunting. The remainder are connected with the administration, missions, and trades. Since 1834 there has been a tendency to replace the Europeans by natives in the subordinate positions.

RAYMOND R. FRAZIER, *Consul*.

COPENHAGEN, DENMARK, *November 24, 1904.*

LAND AND WATER AREAS OF CANADA.

(From United States Commercial Agent Beutelepacher, Moncton, New Brunswick.)

The second volume of statistics gathered during the last census in 1901 has just been issued by the Dominion government at Ottawa. The land and water areas of the Dominion are given as follows:

Land and water areas of the Dominion of Canada, census of 1901.

Provinces,	Land.	Water.	Total.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
British Columbia.....	226,922,177	1,560,830	228,481,007
Manitoba.....	41,169,098	6,019,200	47,188,298
New Brunswick.....	17,863,266	47,232	17,910,488
Nova Scotia.....	13,483,671	230,100	13,713,771
Ontario.....	141,125,330	25,826,306	166,951,636
Prince Edward Island.....	1,397,991	.....	1,397,991
Quebec.....	218,723,687	6,474,874	225,198,561
Alberta.....	64,973,212	230,000	65,205,212
Assiniboia.....	56,498,546	384,000	56,882,546
Saskatchewan.....	66,460,859	2,414,500	68,875,359
Total.....	858,617,837	43,189,042	901,806,879

The other parts of the Dominion are so sparsely settled as to have no agricultural statistics. They comprise the territories of Athabaska, Mackenzie, Keewatin, Franklin, Ungava, and Yukon, with 1,448,066,234 acres of land and 37,294,180 acres of water. In the whole Dominion the land area is 2,316,684,071 acres and the water area 80,483,222 acres, making a total of 2,397,167,293 acres, which is exclusive of Hudson Bay, Ungava Bay, the Bay of Fundy, the Gulf of St. Lawrence, and all other tidal waters excepting that portion of the river St. Lawrence between Point de Monts in Saguenay County and the foot of Lake St. Peter in Quebec County.

Of this total acreage the land occupied amounts to only about one-fourteenth, or 63,422,338 acres, of which 63,334,815 acres is in farms and 87,523 acres in lots. Of the total occupied the large amount of 57,522,441 acres is owned and only 5,899,891 acres is leased. More than one-half of the land occupied is, however, unimproved, the totals being, land improved 30,166,033 acres, land unimproved 33,256,305 acres; of the latter 16,791,885 acres is in forest. The land in field crops amounts to 19,763,740 acres; in pasture, 11,275,556 acres; in orchards, 354,545

acres; in vegetables and small fruits, 116,517 acres; in vineyards, 5,600 acres; in nurseries, 1,561 acres; and in forest plantations, 3,821 acres.

The number of occupiers holding less than 1 acre is 43,615, and the number holding from 1 acre to less than 5 acres is 39,240, the average size of lots being 1.20 acres. Of the whole number of occupiers of lots 58,183 are owners, 13,786 are tenants, and 886 are owners and tenants, those of the last class being so described when part of the land is held in fee and part by lease or any like possession.

The occupiers of farms embrace 18,243 who hold 11 to 50 acres; 156,778 who hold 51 to 100 acres; 150,826 who hold 101 to 200 acres; and 64,655 who hold 201 acres and over, the average size of the 471,833 farms being 134 acres. The number of owners is 416,258; of tenants, 33,958; and of owners and tenants, 21,617.

Taking 858,617,837 acres as the land area of the provinces and territories whose census of agriculture has been enumerated, the extent occupied as farms and lots is only 7.38 per cent of the whole. The land owned is 90.70 per cent and the land leased or rented is 9.30 per cent of the area occupied as farms. Of the relatively small area occupied as lots 82.68 per cent is owned and 17.32 per cent is leased or rented. About 94 per cent of the land in lots is in an improved state, with 45 per cent in crops and 31 per cent in fruit trees and vegetables. The land in farms comprises 47.5 per cent in an improved and 52.5 in an unimproved state.

The unimproved land of lots and farms consists of 16,791,885 acres in forest and 16,464,420 acres in various conditions, such as unbroken prairie, swamp, marsh, rock or waste land, and land in rough or natural pasture but not in a state fit for cultivation.

GUSTAVE BEUTELSPACHER, *Commercial Agent.*

MONCTON, N. B., *November 30, 1904.*

OSTRICH FARMING IN NEW SOUTH WALES.

(*From United States Consul Goding, Newcastle, New South Wales.*)

For some time past there has been an ostrich farm near South Head, Sydney, but now experimental ostrich farming has been commenced at Gilgandra in the northwest. In South Australia this industry has been in existence some time and has proved highly successful. Six cock and six hen birds have been imported from South Australia, where the cost of full-grown birds is about \$122 each. The exportation of these birds from South Africa has practically been prohibited by an export tax of \$487 each, intended to preserve to that country, as far as possible, the monopoly of the lucrative trade of ostrich farming. The climate of our northwest, at any rate in the neighborhood of Gilgandra, is most suitable for these birds. Full-grown birds thrive well on herbage, ensilage, and melons, while the young birds will be fed for six months on lucerne. Although poor and scrubby country will suit the birds very well, yet a good supply of water is absolutely essential to successful ostrich farming. However, a rainfall of from 20 to 25 inches a year is ample. It is proposed to hatch the chicks by

means of an incubator, thus saving time in reproduction. The suitability of a large portion of Australia for ostrich farming has long been recognized, and it is good that attention is at length being paid to an industry which should be very successful and profitable.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *October 14, 1904.*

COMMERCE OF CETTE WITH THE UNITED STATES.

(From United States Consular Agent Hagelin, Certe, France.)

IMPORTS FROM THE UNITED STATES.

Of the imports into Certe during the year ended June 30, 1904, the following are those in which the United States has a large interest:

Imports of certain articles into Certe, and the share of the United States therein, year ended June 30, 1904.

Articles.	Total Imports.	Imports from the United States.
	<i>Tons.</i>	<i>Tons.</i>
Staves	50,871	9,451
Crude petroleum	45,904	31,878
Refined petroleum	6,615	6,615
Wood, for building	25,784	948
Natural phosphates	57,060	10,477
Total	186,224	59,069

Prices paid for American staves by resale to coopers and dealers were 80 to 90 francs (\$15.44 to \$17.37) per 100 staves, the same as last year. These prices are said to be profitable to importers. A reduced business was transacted this year. On July 1, 1903, the local stock of American staves was about 10,000 tons. There were imported, during the fiscal year 1904, 9,451 tons, making a total of 19,451 tons. The stock on hand June 30, 1904, amounted to 8,000 tons, showing the consumption of American staves during the year to have been 11,450 tons. The quantity of natural phosphates supplied by the United States was double that received from the same source last year. The quantities of petroleum imported were about the same as in the preceding year. The price to dealers for refined petroleum was 25 to 28 francs (\$4.82 to \$5.40) per 100 liters (26.42 gallons).

EXPORTS TO THE UNITED STATES.

Exports from this consular agency to the United States in the year ended June 30, 1904, amounted to \$523,800, and consisted of tartar, candied fruits, glycerin, rags, medicinal products, wine, and various other merchandise.

C. D. HAGELIN, *Consular Agent.*

CETTE, FRANCE, *November 20, 1904.*

ORGANIZATION OF BAVARIAN MINISTERIAL DEPARTMENTS.

(*From United States Consul-General Wright, Munich, Germany.*)

The following order affecting the organization of the ministerial departments of the Kingdom of Bavaria has just been promulgated:

1. The following duties will be transferred from the jurisdiction of the ministry of the interior to the ministry of the royal house and of foreign affairs:

(a) The supervision of trade, commerce, and industry, and like interests, including the support of the official trade and industrial museums in Bavaria.

(b) The execution of trade and factory laws, as far as these duties are not covered by paragraph 3.

(c) The control of limited companies and credit institutions.

(d) The supervision of the different Bavarian chambers of commerce.

(e) The promotion of industrial exhibitions and the establishment of commercial and industrial classes and schools.

(f) The control of industrial taxes.

(g) The control of industrial and commercial arbitration courts.

(h) The management of funds for industry and trade.

(i) The control of money and note issues and of stock exchanges.

(j) The control of mining interests and geological surveys.

2. The department of mining and geology will be under the supervision of the ministry of the royal house and the exterior.

3. In addition to the ordinary functions of the ministry of the interior not covered by paragraph 1, the following duties are to be embodied in the functions of this ministry: Inspection of foundations and boilers; approbation of physicians, surgeons, and druggists; establishment of hospitals and asylums; inspection of meat, cattle, food products, drugs, and patent medicines; undertaking of surveys; supervision of peddlers and commercial travelers, and establishment of public markets.

4. The department of agriculture, established December 1, 1871, is hereby abolished.

5. These alterations are to go into effect January 1, 1905.

WM. F. WRIGHT, *Consul-General.*

MUNICH, GERMANY, *November 14, 1904.*

LONDON TRAMWAYS.

(From United States Consul-General Evans, London, England.)

There are in London about 115½ miles of tramways, of which 88 miles have been purchased by the London county council under the provisions of the tramway act, 1870, the remainder, about 27½ miles, are still in the hands of various tramway companies, nine in number.

The tramways owned by the council comprise on the north side of the Thames River the undertakings of the North Metropolitan and the London Street Tramways companies, a total length of 48 miles, and on the south side of the Thames the undertakings of the London, the Southeastern Metropolitan, and the South London Tramways companies, a total length of about 40 miles. The tramways owned by the council on the north side of the Thames (48 miles) are leased to the North Metropolitan Tramways Company for a period of fourteen years, expiring in 1910; those on the south side of the Thames (40 miles) are operated by the council itself.

The tramways act of 1870 provides that the local authority concerned may purchase compulsorily, after a period of twenty-one years from the date of the authorization by Parliament, any tramways constructed and operated by private companies.

H. CLAY EVANS, *Consul-General*.

LONDON, ENGLAND, *November 16, 1904.*

IMPORTS OF COTTON GOODS INTO LIBERIA.

(From United States Chargé d'Affaires Ellis, Monrovia, Liberia.)

During the three months ended December 31, 1904, Liberia imported 496 cases of cotton goods, valued at \$24,716. Of this trade England had 46 per cent; Germany, 42 per cent; and other nations, including the United States, 12 per cent. Our share of this trade was less than 5 per cent, consisting of only 17 cases shipped to Cape Palmas. England leads easily in the sales of cotton goods to Americo-Liberians, while Germany leads in the trade with the native Africans. On account of the losses, delays, and damages attending the shipping of American goods via Liverpool or Hamburg, Liberian merchants, while preferring the cotton goods of the United States, choose those of England, which are nearer the American styles than those of Germany.

The manufacturers in Germany have produced a piece of cloth which is very much liked by the native Africans. It is known here as blue print—"blaudruck," as the Germans call it. It is made in 12-yard pieces, 28 to 30 inches wide, and sells in Liberia at \$1.92 cash and \$2.40 in trade. This blue print has been so successful with the

natives that English manufacturers have made several attempts to produce a similar article. Thus far they have failed, the native African at once detecting the difference. The German blue print is therefore without a successful rival with the natives. A sample of this article will be sent to the Department for the consideration of the manufacturers of cotton-made goods. There is much to be made in this trade, profits ranging, it is said, from 50 to 200 per cent.

GEO. W. ELLIS, JR., *Chargé d'Affaires*.

MONROVIA, LIBERIA, *October 26, 1904.*

AMERICAN TRADE IN SOUTH AFRICA.

(*From United States Vice and Deputy Consul-General Knight, Cape Town, Cape Colony.*)

AMERICAN BRANCH HOUSES.

A few large American manufacturers have established branches in this country and are doing as well as could be expected under the present conditions of trade. A large proportion of the wholesale merchants seriously oppose the establishment of branches here by their American principals because (1) they have been in the habit of importing, and, naturally, object to goods being brought here and stored for sale to the general wholesale trade, inasmuch as that does away with the speculative part of their business, which has been a considerable source of revenue in the past, owing to the fact that the market was usually either bare or overstocked; and (2) they seem to fear that ultimately the branches will solicit the retail trade direct, and will thus seriously interfere with the volume and profits of their business. This seems to me rather unlikely, because the retail trade is scattered over such a wide area that to properly solicit it would involve too much expense, the traveling expenses of commercial men being very heavy, particularly in the country districts, and especially when it is necessary to visit the districts far from the railways, where travel is often by post cart or other slow and expensive means. It would be unwise for any but a strong house to attempt to operate branches here or for anyone to do so without first sending a representative to look over the ground and to examine carefully the matter of storage and forwarding.

MEANS OF ADVANCING TRADE.

The best way that occurs to me for those who have a moderate trade here and wish to develop it further, and for those who have none and are desirous of making a start, would be to place their goods fully before the New York exporters. It is also a good idea to send a man with samples here to visit the trade with the understanding that, while he solicits business, the merchants may buy the wares exhibited through

their own sources, as the trade here is very touchy upon this point, a fact which can not be emphasized too much. I have always advised wholesale dealers in the United States to send men here to look over the ground, as it is useless for them to put their goods into the hands of English merchants, who will always work harder to push British than American goods. One thing I have often tried to impress upon the minds of the American exporter is that it is not desirable to consign any large quantity of goods here without a trusted employee to carefully look after them, and not even then unless complete arrangements are made for the storing, handling, and disposing of the goods on arrival, as the market is more or less restricted, and advantage can be taken if the buyers know of a quantity of goods here on which storage and other charges are accruing, and for which a ready sale must be found to avoid loss. In such a case it is more than likely that the price eventually realized will be a very poor one.

AMERICAN GOODS AND PACKING.

I think the patterns and quality of American manufactures are satisfactory and see no reason why radical changes should be made to suit the local requirements.

I know of no general complaints about packing. It is desirable—in fact, absolutely necessary—that goods shipped here should be properly protected by good, substantial cases—zinc-lined, as a rule—as the discharging of cargoes is done mostly by native laborers, who use little care, and consequently goods are knocked about considerably. The same will apply to shipment inland by rail. Transportation facilities are fair, but very expensive; but as this expense is borne by the purchaser it is not of so much interest to the exporter. All shipments should be made with goods knocked down, when possible, in order to minimize the ocean freights.

BANKING, CREDITS, AND REMITTANCES.

The banking arrangements here are fair. The Standard Bank of South Africa, the African Banking Corporation, and the Bank of Africa have headquarters in London and branches in the principal cities in Africa. The African Banking Corporation has also a branch in New York. Exchange between here and London and New York varies from time to time, making it possible sometimes to remit at par to London, while at other times the rate exceeds one-half per cent; the rate at present is about three-eighths per cent on cable remittances to London; to New York a trifle more.

European houses carry and control many institutions here, making it possible for them to ship goods and draw long-time bills. It would be quite useless for American companies to try to compete against this

handicap, and it has been found as a general rule more desirable to ask purchasers of goods in the United States to provide letters of credit from their bank here to accommodate drafts on London or here, as arranged. This enables the shippers to extend such time as may be required with safety. The merchants here understand this and the majority are quite willing to protect their credit in this manner.

OCEAN FREIGHTS.

In freight rates to South Africa for heavy goods the American has the advantage over the British exporter, as is shown by the following statement of freight rates from Great Britain and New York to Durban, Natal:

Freight rates from Great Britain and New York to Durban, Natal.

Merchandise.	From Great Britain.	From New York.
Agricultural machinery	\$9. 73	\$4. 26
Mining machinery	7. 90	4. 26
Wire fencing	7. 30	4. 26
Galvanized iron	6. 08	4. 26

The rate from London and New York to Cape Town is usually about the same as to Durban.

CLIFFORD M. KNIGHT,

Vice and Deputy Consul-General.

CAPE TOWN, CAPE COLONY, *October 21, 1904.*

TRADE AND TRADE CONDITIONS IN ASIA MINOR.

(From United States Consul Sullivan, Trebizond, Turkey in Asia.)

IMPORTS AND EXPORTS.

The imports of the province of Trebizond in the six months ended June 30, 1904, amounted to \$5,196,305; the exports to \$706,478.

There was a considerable increase in the imports of American goods, and the people are becoming familiarized with American trade and American systems of transacting business. From the most reliable figures at my disposal the entire imports from the United States have not averaged more than \$10,000 annually for several years past. In the six months under review, the value of American manufactures imported was \$60,663, and this does not include the goods of American origin coming through England, France, and Germany. It is fair to assume that these would bring the total to \$100,000. The exports to the United States in the six months amounted to \$96,797, an excess

of \$40,026 over the exports for the corresponding period in 1903. In the six months ending December 31, 1904, there will be a still greater gain in both imports and exports.

TRADE RELATIONS WITH THE UNITED STATES.

There is an inviting market for American manufacturers in this place, and no plausible reason exists why they should not have a large share of its trade. To gain it they should study the requirements of the market in credit, patterns, style, and quality, the transportation facilities and methods, and the weights, measures, and coinage in use here. The superiority of American products is conceded by the merchants, and I am glad to be able to state they evince a desire to give American manufacturers trial and preference. The means of transportation and the banking facilities are ample to serve the ends in view. If American exporters will put forth that progressive and enterprising spirit which has won such remarkable success at home, I feel confident that in the course of a few years they can control the markets of Asia Minor.

It is painful to record that in the past few years some firms have started in the United States styling themselves "export commission houses," and have induced merchants to give them commissions for the purchase of Asia Minor goods. These firms have practiced deception and proved recreant to the trust reposed in them. This has created want of confidence among the merchants in Asia Minor. To remedy this condition of affairs I would suggest that some of our enterprising business houses of stability and repute turn their serious attention to this market and send agents who will truthfully and honestly represent them. I have influenced some American importers of hides, skins, and other products to personally visit this place, and am pleased to relate that their doing so has been instrumental in opening trade relations.

The principal products of this province are skins, hides, wool, filberts, walnut wood, beans, sausage casings, and tobacco, and most of these products are finding a ready and a profitable market in the United States.

Our commercial relations with the province are now in a healthy condition. As we are the largest purchasers of what the people produce, our manufacturers should and can sell what that people consume.

PORT CHARGES.

The only port fees demanded are for the maintenance of the light-house and quarantine systems. These taxes are usually paid in Constantinople by the several steamship companies who maintain a regular service in the Black Sea ports. They are by this means allowed 10

per cent rebate from the regular schedule of charges. The light-house tax is 2 cents a ton for steamers of 800 tons and upward, and 1 cent a ton for steamers under 800 tons.

HARBOR IMPROVEMENTS AT TREBIZOND.

A sea wall about 700 feet long, to be extended to 1,220 feet, has been constructed during the past two years to prevent the shifting sands of the Digermendere River from filling the harbor, and rendering it unsafe for vessels to approach closely the landing stage. A landing pier is now in construction, extending about 60 feet from the present dilapidated one, and when completed it will greatly facilitate the landing of goods and passengers. The erection of an iron pier extending into deep water, at the cost of \$250,000, is also contemplated, so as to enable steamers to come alongside and discharge their cargoes without having to resort to the present unsafe and unsatisfactory manner of employing lighters and boats.

TRANSPORTATION AND COMMUNICATION.

The existing system of transportation by sea leaves nothing to be desired. That of the interior is the antiquated system of caravans, pack horses, wagons, and ox carts. There are no canals, and the rivers are not navigable. There is telegraph and cable communication with the United States, via Constantinople and Batum. Mail takes from fourteen to twenty days to reach New York. Competition is tending to lower freight rates, and steamship companies complain that they are losing money. The rates of transportation from this port to New York are, per 220 pounds: Filberts, \$1.10; beans, 75 cents; skins, \$1.35; sausage casings, \$2.50; rugs, \$2.70; furs, \$5.40.

LICENSES AND PASSPORTS.

A license must be obtained by Ottoman subjects transacting business, but foreigners and foreign commercial travelers need no license. There are no arbitrary regulations which affect commercial travelers and no obstacles in the way of their doing their legitimate work. Commercial travelers and all foreigners are required to adopt proper precautions and not have in their possession or baggage compromising documents, newspapers, books, or other literary productions which reflect on the Ottoman Empire, and no marks or insignia on their samples having reference to either the religious or the political status of the Turkish people. A passport is indispensable and should be viséed at the port of embarkation by a Turkish consul.

EDWARD J. SULLIVAN, *Consul.*

TREBIZOND, TURKEY IN ASIA, November 8, 1904.

AMERICAN AGRICULTURAL MACHINERY IN SWEDEN.

(From United States Consul Bergh, Gottenborg, Sweden.)

There is no denying the fact that since the moderate protective tariff system was adopted in Sweden the industries of the country have made comparatively rapid strides. Improvements have been made, American methods and models have been studied and often copied, especially models of machinery and tools, and now many articles are made here which formerly had to be imported. The patriotic watchwords "Sweden for the Swedes" and "buy Swedish manufactures" are now heard oftener than a few years ago. Still a considerable import is going on, but when this import looks like an "invasion" it causes, of course, a stir among the Swedish manufacturers.

The press here contained recently copies of an article from *Svensk Export* (Swedish Export), which I translate:

AMERICAN COMPETITION IN MACHINERY.

It will be remembered that the trust of American manufacturers of agricultural machinery last spring tried to get the majority of shares in the largest Swedish concern in the line, *Aktiebolaget Arvika Verkstäder*, of Arvika. This attempt was in time disclosed, however, and the scheme miscarried. Now the trust has adopted another method. Under the name "*Aktiebolaget International Harvester Company*," a company has recently been incorporated according to Swedish law, the aim of which, it is claimed, will be to sell harvesting machinery and other articles; also to manufacture such and other machinery. The capital amounts to 100,000 crowns (\$26,800), and the directors are a commissioner of land revenue and a major-general. Even the name of the firm, which sounds strange to Swedish ears, seems to indicate that its business will not be to handle Swedish articles, and that it has been formed with the manifest intention to promote, at reduced prices, the sale of American harvesting machinery, etc., for the account of the trust of American manufacturers, to the detriment of our own budding industry in the same line. This seems to be corroborated by a circular recently issued by the company, in which it is said that the company has assumed the agencies for several of the leading American manufacturers of mowers and reapers at further reduced prices, although it seems that the American machines have been sold here 15 to 20 per cent cheaper than in Denmark, where the trust has been able to keep its monopoly.

It is to be hoped that the Swedish buyers will form a solid front against a foreign attack, which is backed by much capital, and the purpose of which evidently is to crush the troublesome Swedish competitors in order to again—if the attempt is successful—raise the prices on agricultural machinery, which now, owing to Swedish production, are reasonable. It is true that commerce is free, but then the conditions should be at least nearly equal, which is not the case here when the American manufacturers in their home market defend themselves by

a tariff wall (45 per cent ad valorem) and then throw in their surplus production here below cost.

The fact that the directors of the new company are Swedes of high social standing has caused some sensation, but it is likely that they have not clearly understood what the real object of the enterprise is.

Later on the directors of the company have declared that the intention is to buy suitable water power amounting to 5,000 horsepower, build a factory, and start production here in Sweden, and that the necessary capital can be obtained from the American company; further, that until this can be done the Swedish company will, on a wholesale basis, manage the sales of American machinery, while the retail business as usual will be attended to by the agents throughout the country. The press here still objects, thinking that even if the factory is built or bought it will be only for the purpose of assembling the machine parts manufactured in the United States, in which case the benefit of the Swedish industry would be almost nothing.

ROBERT S. S. BERGH, *Consul*.

GOTTENBORG, SWEDEN, *November 21, 1904.*

TRADE OF MANCHESTER IN 1904.

(*From United States Consul Bradley, Manchester, England.*)

The general trade of this district was considerably greater in the ten months ended October 31, 1904, than in the same period of 1903 in nearly every product, both exports and imports, with all countries except the United States, which, it is said (on account of interest in elections), has not taken its proportion of Manchester goods, while it has seemed to send an ever-increasing variety and amount of its own wares to this market.

During the past year the most striking happening in the Manchester world of commerce has been the project broached at the meeting of the Associated Chambers of Commerce, held here in September, for the creation of a national public trust to take over the canals of the district with a view to making them of greater service to the community. It is believed that the canal traffic in this great center of industry is capable of indefinite extension, and the cost of transporting merchandise would be modified considerably by such action. Another occurrence of interest to the United States was the incorporation of the British Cotton Growing Association, with an increase of capital to \$2,500,000.

In regard to the possibilities of further openings for trade, I may say that practically all Americans who have come to the district with something worth having, and with money to wait until the value of the article is proved, have been successful. Their numbers increase a little every year, but the district must be treated just as we would treat a

80 ENGLAND'S SHARE IN THE COTTON GOODS TRADE OF MEXICO.

new district in the United States, only we must work a little harder on account of Continental competition.

The following table shows the character and value of the declared exports from Manchester to the United States during the ten months ended October 31, 1903 and 1904:

Character and value of exports declared from Manchester to the United States.

Articles.	1903.	1904.	Articles.	1903.	1904.
Asbestos.....	\$18,348	\$34,337	Leather, etc.....	\$118,114	\$129,075
Brattice cloth.....	8,596	12,542	Linens.....	99,886	68,238
Buttons.....	1,122	881	Machinery.....	1,010,386	586,020
Card clothing.....	105,840	81,786	Mahogany logs, oak logs, etc.....	28,336	22,478
Carpets and rugs.....	51,236	64,423	Miscellaneous.....	34,402	31,568
Cattle hair and other hair.....	64,581	61,601	Needles, pins, etc.....	18,929	20,221
Chemicals.....	169,928	260,898	Paper, paper hangings, etc.....	121,327	107,757
Coal.....	131,844	.....	Provisions.....	9,893	7,535
Colors and dyestuffs.....	255,554	188,197	Quilts.....	52,983	49,531
Cotton (American).....	12,850	.....	Rags and paper stock.....	337,212	362,422
Cotton and worsted and worsted stuffs.....	344,980	256,851	Returned American goods.....	.....	30,004
Cotton (Egyptian).....	20,741	7,342	Shawls.....	9,449	5,420
Cotton piece goods.....	2,490,421	1,496,252	Silk and silk and cotton piece goods.....	22,958	22,781
Cotton velvets, fustians, etc.....	1,788,043	1,217,752	Silk noils and waste.....	28,630	24,686
Cotton yarn and thread.....	1,280,280	1,214,786	Silk yarn.....	45,586	52,587
Curtains (lace).....	24,931	10,390	Steel wire, etc.....	110,650	45,282
Elastic web, cord, etc.....	33,875	22,873	Tape and braid.....	40,548	30,966
Felt hats and other hats.....	2,963	4,526	Tin plates.....	98,463	.....
Furniture and household effects.....	12,060	21,121	Towels.....	17,658	12,536
Furs, skins, etc.....	5,316	20,827	Waterproof garments and cloth.....	6,398	10,405
Glassware, china ware, and earthenware.....	27,294	14,228	Wool felt, blanketing, lapping, etc.....	39,161	47,826
Handkerchiefs.....	85,495	23,447	Wool noils and other noils.....	2,588	5,966
Hide cuttings.....	120,466	124,670	Yarn (other than cotton and silk).....	1,468	2,308
Hides.....	109,749	197,317			
Hosiery.....	75,052	62,306			
India-rubber sheets, ponches, etc.....	3,692	4,085			
Iron (pig), etc.....	88,444	82,448			
Laces, nets, etc.....	233,256	159,484			
			Total.....	9,756,874	7,264,414

WM. HARRISON BRADLEY, *Consul.*

MANCHESTER, ENGLAND, *November 18, 1904.*

ENGLAND'S SHARE IN THE COTTON GOODS TRADE OF MEXICO.

(From United States Consul Le Roy, Durango, Mexico.)

American cotton manufacturers and exporters will probably find matter of interest in the following extracts from an interview in the Mexican Herald of November 23, 1904, with M. R. Mainprice, sent to Mexico by the Calico Printers' Association of Manchester, England, to study the cotton goods trade:

England has irrevocably lost Mexico as a market for calicoes and print goods of a cheap and medium grade, and Mexican-made products have entirely displaced foreign importations. Only in the fancy and high-priced line of goods can the Manchester factories compete with the Mexican factories, and this is probably simply because the Mexican factories as yet have made but few attempts to secure this sort of

trade. English manufacturers have recognized that their market is gone and no attempt will be made by them to compete with Mexican factories in cheap and medium goods.

In the first place, the Mexican plants have the advantage over us in that they use water power and electricity, whereas we have to depend on coal and steam, which are expensive. Again, they have cheap labor to perform the unresponsive tasks, while we have to reckon with the labor unions, which are thoroughly organized and may demand wages that would bankrupt us. It is true that the Mexican factories have as skilled labor as we have for the delicate work, but the major portion of calico printing is merely mechanical and may be performed by the most unskilled worker. Our workmen make us pay three or four times what is paid here in Mexico, and this militates against us in any competitive action we might have contemplated.

Another reason, and not the least, the Mexican industry is protected by a high tariff that acts as a wall over which we can not force our goods. Until the enterprises here became of a large character, we could successfully compete, but now we are driven from the field with not a leg to stand on, if you except the very high grades of goods, which are but a tithe of all we used to have in this Republic. In the fancy prints we can yet hold our own, mainly through the youth of the Mexican factories, which have yet to advance to the point where they can do the same work that we can, but in all the cloths that are used by the common people they have got us so bested that we have given up the fight and retired.

And not alone does this apply to English manufacturers of calicoes. The Americans and Germans find themselves in the same box and are eagerly casting about for a manner in which they can successfully meet prices here, while we have accepted the inevitable and withdrawn from a losing fight.

In Central and South America it is entirely different. There we have practically no competition and our salesmen are daily acquiring new territory and selling all classes of fabrics. South and Central America yet have to come up to Mexico in progressiveness before they can hope to successfully keep English cloths off the market. This trip will embrace all of the lower countries, and I hope to make a report that will please those who sent me and assist business for the English manufactories.

JAMES A. LE ROY, *Consul.*

DURANGO. MEXICO, *November 26, 1904.*

HARDENED GLASS AND CRYSTAL WARE.

(From United States Consul McNally, Liege, Belgium.)

A report from this consulate on the subject of hardened glass and crystal ware seems to have attracted much attention. Newspapers and magazines in Europe and the United States have emphasized the importance of this ware as a household requisite, and this consulate and the firm manufacturing the ware have been overwhelmed with correspondence concerning it. This is all the more surprising when it is considered that the manufacture of the ware is not of recent origin

but has gone on for twenty-five years. The term "unbreakable" applied to this ware is an exaggeration. To make unbreakable glassware would be a rare accomplishment, but it can be justly said that this ware is remarkable for its power of resistance. The commercial insignificance of this commendable article is attributed to the rather high cost of manufacture.

The inventor of the hardening process, M^r. A. de la Bastie, was a native of France. Of the many French firms that entered upon the manufacture of the ware none found it profitable, so that to-day it is hardly known in the country of its origin. Their failure is thought to be due to the attempt to manufacture various articles the expense of which precluded a ready return. The fact is that only a few articles of commercial value can be made.

When the process had reached the present state of perfection, the inventor transferred his rights for a fixed royalty to a certain manufacturer in each of several countries, who was to have the monopoly of manufacture. In due time certain articles appeared in the local markets, but the sale never reached expectations. Of all concerns to which the inventor's rights were extended only one remains, the Société Anonyme des Cristalleries du Val-St.-Lambert, of Liege, Belgium. This company has a universal reputation, and sends its products throughout the world, the United States being one of its lucrative fields. It employs 5,000 men, thoroughly experienced in the manufacture of cut glass and tableware. Its productions are of the finest quality, thanks to the personnel of the technical departments, including a number of workmen specially trained in the work of hardening glass and giving to it the greatest possible resistance which may be expected from a product which, after all, is glass.

Agatine dishes (agate is the technical term for the ware) are obtained by the superposition of layers of opal glass and clear crystal. The product is magnificent in appearance and of astonishing resisting power. Hardened glass presents such difficulties of manufacture that only simple objects can be produced with such economy that the price is not an obstacle to their sale. The consequence is that, with the exception of a few unimportant specialties, only two articles are manufactured at the present time. These are dishes of agatine and tumblers of hardened glass. The writer has seen plates of this agatine ware hurled from one end of a large storeroom to the other, over a cement floor, without damage. This experiment was repeated several times without the slightest indication of cracking or chipping. But the article which, on account of its form, is the most convenient to manufacture, and which has no rival in its power of resistance, is the tumbler, in all its forms and shapes, as used daily by millions of persons in cafes, hotels, and barrooms. It should appeal to the proprietors of these places, inasmuch as it is proof against the carelessness of waiters and dishwashers. Even precautions against breakage hinder

quick service. Such ware is not usually found in these places because a cheaper article reduces the expense of installation. A buffet fitted up with hardened crystal tumblers is almost immune from the usual expensive "wear and tear" of its glassware. The tumblers can be thrown from a table or dropped by a waiter with but a remote possibility of breaking.

It is surprising to note how little this hardened crystal ware is used. The cause is either the ignorance of the public as to its existence, or the idea of the merchant that selling it would reduce the amount of his glassware sales.

JAMES C. McNALLY, *Consul.*

LIEGE, BELGIUM, *November 25, 1904.*

COMPETITIVE INVESTIGATION OF HYDRAULIC CEMENTS.

(*From United States Consul-General Mason, Berlin, Germany.*)

Notwithstanding all that has been done by institutions like the royal testing establishment at Charlottenburg, by architects' and builders' associations, and by the Governments of Switzerland, France, and Belgium, to test the hardening and durability of hydraulic cements under varying conditions of moisture and exposure to heat and frost, there is still a margin of uncertainty in respect to certain of these properties, concerning which authorities and recorded experience seem to disagree.

What is, after all, the combination which really takes place between the silicic acid, alumina, and oxide of iron when mixed with lime, and in what manner and degree do these several substances contribute to the hardening of hydraulic cement under certain prescribed conditions? Conceding that certain known results are produced by the mingling of these elements, what chemical or mechanical action takes place, and how shall such action be exactly and scientifically stated and described? Most builders and engineers who make large use of hydraulic cement in various constructions feel the want of more thorough and exact theoretical knowledge on this subject, and to meet this demand the German Government, with characteristic thoroughness and forethought, has adopted a plan for collecting what is known on the whole complicated subject by the foremost experts of Germany and other countries.

In June last the Prussian minister of public works, jointly with the Prussian ministers of war, agriculture, and trade and industry, the imperial secretary of the navy, and the German society of Portland cement manufacturers, issued a call for a prize competition of scientific essays on the chemical processes which take place during the hardening of hydraulic cements. Prizes to the amount of 15,000 marks (\$3,570) are offered, and the prospectus specifies that contributions must be

submitted in the German language, each signed with a pseudonym, and the name of the author inclosed in a sealed envelope marked with the same pseudonym, which latter will be opened only in case the paper bearing such pseudonym receives a prize. Thus prepared, all papers for competition are to be addressed to the "Ministry of Public Works, No. 80 Wilhelm-Strasse, Berlin," where they will be received until 3 p. m. December 31, 1906—that is. two years from the close of next month.

The best work of the foremost scientists throughout the world is cordially invited, and the papers, immediately after the lists are closed, will be submitted to a jury composed as follows: Prof. Dr. Van Hoff, Berlin; Prof. Dr. Scheibe, Wilmersdorf; Dr. Michaelis, Berlin; E. Cramer, editor of the Clay Industry Journal, Berlin; Prof. Dr. Wilhelm Fresenius, Wiesbaden; Director Friedrich Schott, Heidelberg; Dr. H. Passow, Hamburg, and officials of the royal testing station near Berlin.

The scope of the investigation is indicated by the following translation of the schedule which defines the questions to be solved:

Demonstration of the properties and of the hardening process of calcareous hydraulic cements, synthetically, analytically, microscopically, mineralogically (hardening in air, fresh water, and sea water).

(a) To prove whether silicic acid, alumina, and oxide of iron combine with lime as crystalloids in stable proportions, or as colloids in varying proportions.

(b) To prove whether double combinations result between silicic acid, alumina, and oxide of iron with lime and in what manner these substances are engaged in the hardening process.

(c) Consideration of the swelling phenomenon which accompanies the hydraulic hardening.

(d) Consideration of the influence of the temperature and length of time of the burning process on the different kinds of hydraulic cements.

(e) Properties of puzzolana and its hardening with lime; beginning with silicic acid as the most active and prevailing puzzolana, alumina, oxide of iron, and manganese, independent and in combination with silicic acid, as natural or artificial puzzolana.

The competitors may choose for the purpose of investigation any or all of the foregoing questions.

This whole scheme is an apt illustration of the intelligent, economical, and rational way in which the Government of Germany aids in bringing to the assistance of various industries the attainments of scientific research and practical experience. It is to be hoped that American scientists will not fail to contribute something of note and value to this competition. No nation is more deeply interested than the United States in the conclusions to which these researches may lead and which will become, from the moment of their publication, the common property of builders and engineers of all nationalities.

FRANK H. MASON, *Consul-General*.

BERLIN, GERMANY, *November 25, 1904.*

RETURN OF SWEDISH-AMERICANS TO SWEDEN.

(From United States Consul Bergh, Gottenborg, Sweden.)

It has been proposed to the Swedish Government that arrangements should be made to promote the return from the United States of such emigrants as are able to invest capital in real estate. The proponent is asking if it would not be expedient to send one or several persons to the States in the American Union having the largest Scandinavian population for the purpose of investigating the conditions there, and using the information obtained for the purpose mentioned. He states in his proposition that even now some emigrants return to Sweden, but that the movement is counteracted by unfavorable conditions here—such as defective judiciary conditions, and the bureaucratic state of society, which repels the Swedish-Americans, who are accustomed to more liberal social relations, and finally the intolerance of the whole public in Sweden, which does not understand the self-esteem natural to the Swedish-American who by his own exertions has passed from poverty to good economic circumstances.

He says that these unfavorable conditions ought to be changed and that everything practical ought to be done to promote the return of emigrants; that the Swedish-Americans are a practical people, with wide views, hardy and strong men and women, noted for their sobriety and moral, religious lives; that a greater return of the better classes of emigrants would also bring more money to Sweden; that the opinion of the Swedish-Americans is favorable to such arrangements, and that the American authorities are too noble-spirited to put any obstacles in the way of such a movement, although they recognize the good qualities of the Scandinavian immigrants. The proponent says that arrangements should be made so that it would be easier to obtain land in Sweden—particularly Government land—and loans of money on easy terms for the erection of good homes; that attempts should be made to bring about the return of engineers and skilled workmen, who in the United States have gained good positions, and to invite American capital, which would promote the utilization of Swedish mines, waterfalls, etc. He says that such connections with the United States would be of advantage economically and in other ways.

ROBERT S. S. BERGH, *Consul*.

GOTTENBORG, SWEDEN, *November 21, 1904.*

TOBACCO PRODUCTION IN BADEN AND ALSACE-LORRAINE.

(From United States Consul Brittain, Kehl, Germany.)

In the Grand Duchy of Baden during 1903 there were engaged in the cultivation of tobacco 35,091 small planters who had under cultivation 16,610 acres, chiefly in the valley of the Rhine. Many of the plots contain but a few square rods of land, cultivated by men and women working side by side in the fields. The total value of the crop harvested in 1903 was 6,476,749 marks (\$1,541,466). There were 848 less acres of land under cultivation than in 1902, and 2,327 fewer planters engaged in the business, and the decrease in the value of the crop was 1,652,896 marks (\$393,389). The leading causes for this decrease were the difficulty in obtaining young plants and the unsteady condition of the tobacco market. While the crop of 1903 was below the average the quality was good and the planters realized an average price of a fraction over 5 cents a pound when the tobacco was dried. The 1904 crop has not been marketed, but will be less than that of 1903, as there were 903 acres less planted.

In Alsace-Lorraine 3,456 acres were planted in 1903, yielding 7,810,582 pounds which sold at an average of 5.7 cents a pound. The quality of the tobacco in Alsace-Lorraine was not very good, and the indications are that the crop in 1904 will be considerably less than that of 1903, as the area planted is 3,348 acres less.

The farmer or planter is not obliged to pay any tax on his tobacco, but as soon as it passes out of his hands an excise duty of 45 marks per 100 kilograms (\$10.71 per 220.46 pounds) must be paid. Many of these small planters or farmers handle their tobacco in a very primitive manner. When the tobacco is cut the leaves are hauled to the home of the planter in old wagons drawn by one or two cows. The leaves are then hung up to dry in rows around the outside of the house or other buildings. Some of the more extensive planters have special drying houses.

JOSEPH I. BRITTAİN, *Consul*.

KEHL, GERMANY, *November 11, 1904.*

ELECTRICAL ANNIVERSARY AT BERLIN.

(From United States Consul-General Mason, Berlin, Germany.)

An occasion of rare interest to those concerned in electrotechnical science and progress has been the meeting and exhibition which took place in the district post building in Artillerie-Strasse, Berlin, on November 22 and 23, in commemoration of the twenty-fifth anniversary of the foundation of the German Electrotechnical Association. This

organization, which has done so much to promote electrical progress in Germany, was organized by Dr. Werner von Siemens and Heinrich Stephan—then postmaster-general of Germany—in November, 1879, the same year in which Messrs. Siemens and Halske exhibited the first electric street-railway motor and train, a tiny affair, which yet embodied all the essential principles of an electrical tramway of modern type. The recent meeting was an assemblage of electrical experts from far and near. Alexander Siemens came from London to represent Lord Kelvin and the Royal Institute of Electrical Engineers, and on Tuesday evening the whole august convention of experts held a festival session in the legislative chamber of the Reichstag building under the chairmanship of Minister Posadowsky.

The exhibition, although gratuitous and open to the public during specified hours of both days, was a display for experts, and was, for the most part, quite beyond the comprehension of the average layman. It had no commercial organization or purpose, but was simply a collection and display, by the members of the society, of their latest and most interesting inventions, or so much of them as they were willing to submit to the inspection of their colleagues. Naturally this made up an exposition of extraordinary interest for electricians, and the tastefully decorated exhibition rooms were thronged from morning until night by young engineers from the great electrical manufacturing companies of Germany, professors and students from the universities and technical schools, all eager to see the latest inventions and to hear the last word in their special branch of electrical science.

The General Electric Company of Berlin exhibited a 55-centimeter steam turbine, which, running almost silently at 4,500 revolutions per minute, turned a direct-coupled dynamo that generated a continuous current of 110 volts and about 45 ampères for a portion of the other exhibits. These included a great number of measuring and testing instruments of extreme sensitiveness and delicacy; arc and incandescent lamps of five or six different kinds, all new and embodying alleged improvements over all others in practical use; electrical implements for surgery and electrolysis; storage batteries of several original types, including the new selenite cells for light-telephones and various scientific purposes; apparatus for testing lubricants; photometers, refractometers, polarization implements, and a bewildering variety of instruments for measuring and testing electrical currents.

Another exhibit which attracted great attention was a new system of typewriting telegraphy, whereby two electromotors, running synchronously at the sending and receiving stations, transmit and record impulses which are governed by circuits passing through the openings in a strip or ribbon of paper which has been perforated by a keyed machine operated like a typewriter. This apparatus has been tested successfully during the past year on the line between Berlin and

Frankfort-on-Main, and is said to have a working capacity of 2,000 letters per minute. The exposition was in fact a display of the very latest devices in electrical technology, set by some of the ablest living experts before men of their own profession, to celebrate an anniversary of memorable interest to scientific progress in Germany.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *November 25, 1904.*

OUTLOOK FOR AMERICAN TRADE IN HARPUT, ASIA MINOR.

(From United States Consul Norton, Harput, Turkey in Asia.)

The consular district of Harput comprises the two vilayets of Diarbekr and Mamuret-ul-Aziz, both largely pastoral and agricultural. Public security in the former vilayet is even less assured than during the preceding year, and trade has suffered correspondingly. The commerce of this whole region continues to be affected by this condition of affairs, but still more by the restrictions on the movement from one place to another of the Armenian merchants, who constitute the bulk of the trading class. Permits to journey outside of the vilayet of residence are obtained with great difficulty, on furnishing heavy guaranties, and travel to the capital is practically prohibited. It is not difficult to form an idea of the consequent stagnation which exists in the commercial interests of the district. Increased taxation, with a consequent steady drain of cash toward Constantinople, tend to diminish notably the amount of circulating medium and to restrict exchanges.

The efforts made by this consulate to stimulate direct commercial relation with the United States bear fruit, but the results are slow in appearing and much of the consular work here is devoted to laying the foundations of what may be a prosperous trade when more favoring conditions exist. Most of the trade with the United States is conducted indirectly through the jobbing houses of Constantinople and the Anatolian seaports, and occasionally through agents at Marseille. The direct export of rugs to the United States is growing. A fairly large export of skins and sausage casings, started three years ago, is carried on no longer directly with American purchasing houses, but goes through the hands of intermediaries at Constantinople and other points. A single invoice was certified at this consulate during the fiscal year 1903-4, while fourteen invoices were certified during the preceding fiscal year.

Despite the somewhat isolated location of this district, in the center of Asiatic Turkey, there is much to favor the growth of commercial relations with the United States. Two powerful factors aid such a

movement: (1) The fact that four-fifths of the emigration from Asia Minor to the United States is from this district, in consequence of which nearly every family has a relative or friend there. As a natural result, gifts of American articles are frequent. Money is remitted in considerable amount. The annual remittance has reached at times \$500,000; it is now \$313,000. (2) The widespread influence of American educational effort at Harput and in the surrounding region for the last half century has done much to prepare the way for commercial effort. Long-continued contact with American teachers, methods, books, educational equipment, and philanthropic agencies has brought about a feeling of respect and admiration for the American home and its accessories, for our books and periodicals, for our inventive skill and practical devices, for our business methods and enterprise. It has likewise led to a deep-seated confidence in the integrity and business principles of the American people.

To these two factors should be joined the presence in the region of numerous naturalized citizens, who revisit the country of their birth as far as the rigid regulations of the Ottoman Government permit. They do much to inculcate a taste for American wares. Another helpful feature is the growing dissatisfaction with the cheap short-lived articles of European manufacture which have been brought to this market in quantities during the past decade, especially from Austria, Germany, and Italy. Wares of American make which are found in the homes of the resident American colony or have been introduced here for sale are fortunately of such durable, substantial, honest manufacture, while being at the same time practical, light, and elegant, that there is a universal desire for closer trade relations with the country of their origin.

As there is a larger proportion of English-speaking people in and about the twin cities of Harput and Mamuret-ul-Aziz than at any other point in Asia Minor, it is easily seen that the conditions are peculiarly favorable for American commercial enterprise.

MANUFACTURES IN DEMAND.

I have already noted the success following the introduction of American agricultural machinery, bicycles, sewing machines, pumps, nails, roofing, textiles, etc. During the past year inquiries have been made for the following articles of American manufacture, and efforts have been made, or are being made, by this consulate to establish satisfactory business relations between local merchants and American producers:

Vehicles.—A few heavy carriages, manufactured at or near Constantinople, are in use in Mamuret-ul-Aziz and Diarbekr by leading officials. They are exceedingly cumbersome, and so liable to break down that the owners rarely venture with them on journeys of any

length. The wish is often expressed that our light, strong carriages could be introduced. There is a distinct opening for durable carts and farm wagons with broad tires, to replace the unwieldy, primitive ox carts and buffalo carts which compete with pack animals. If complete outfits are not furnished, on account of high freight rates, wheels, axles, and, for some uses, springs, could be introduced advantageously.

Leather and saddlery.—This district offers the anomaly of exporting large quantities of hides and skins, while importing much of the leather needed in saddlery and the better grade of foot wear. The production of native tanneries is sadly deficient in all the qualities required for good shoemaking and saddlery. American leather recently imported here has proved to be thoroughly satisfactory. Much attention has been attracted to its superiority over the French and German leathers in this market. Saddles are now and then imported by the resident Americans, and are exposed constantly to the observation of the natives. Local saddlers view with envy the material used in our saddles and harness.

Horseshoes.—A few American horseshoes have been tried here and have given much satisfaction. The native horseshoe is a thin plate of iron, covering the entire sole of the hoof, and is slippery and unhygienic. American machine-made horseshoes, if energetically introduced, should soon gain the market.

Tools and machinery.—A consignment of several hundred dollars' worth of tools and machinery has just arrived from the United States, to be used by the students of Euphrates College in a new cabinet shop. In other regions of Turkey such shops, under American direction, have led to the establishment of many others in native hands, but with American tools. Some other tools for working both wood and metal have found their way here and are thoroughly appreciated. An enterprising native agent, who is engaged actively in the importation of American tools, is planning to leave shortly for the United States to acquaint himself with the latest machines, buy tools and machinery, and establish permanent relations with this region in this branch of trade.

Clocks and watches.—There is a steady demand for clocks and watches, especially those provided with Turkish figures on the faces. Timepieces from the United States come frequently as gifts and are highly valued, but no direct importation has been attempted.

Textiles.—There is an excellent opening for nearly every variety of textiles. Plain sheetings from the United States have proved so satisfactory that the market is ready to receive a large variety of cotton-ades, handkerchiefs, towels, etc.

Shoes.—Probably no article of American manufacture, if properly introduced, would succeed better here than the American shoe. It is well known, for a large number of emigrants from this district are

engaged in the manufacture of shoes at Lynn or other towns of eastern Massachusetts.

Men's furnishings.—The same may be said of suspenders, collars, cuffs, shirts, neckties, underwear, and other furnishings. The taste for such articles is growing rapidly, and there is an increasing demand for them. Much is being done now by the tailoring department of the American orphanage and by native traders to extend the importation of these articles, especially suspenders, collars, and cuffs.

Hardware.—There is a general demand for better hardware. Structural hardware, screws, hinges, door catches, etc., come chiefly from Germany, and are of a decidedly inferior grade. Cutlery is almost invariably of poor steel. Knives come mostly from England, scissors from Germany.

Toys.—There is a good sale of cheap German and Swiss toys. Inquiries are made for more tasteful and durable articles. Toys of rubber or metal are in special demand.

Small organs.—There is quite an active inquiry for small portable organs costing about \$20. They are in demand for the native schools and churches.

Enameled ware.—A good quality of agate or granite ware would find a prompt sale. There is great dissatisfaction with the German and Austrian makes now supplied to this market.

Lamps.—As the use of petroleum becomes more general, even in the villages, there is an increased demand for lamps, especially for those of metal. The chief import is at present from Germany. The lightness and convenient adjustment of American lamps, however, commend them invariably to those who have had the opportunity to become acquainted with them.

Bedsteads.—There is a growing tendency to use metal bedsteads. Those of iron are ordinarily in demand, but occasionally brass bedsteads are found. A clumsy article is manufactured here, and a better grade is imported from Austria and Germany.

Furniture.—Cabinetmaking is in its infancy here. Chairs and tables brought from the United States are copied to some extent. There is a distinct opening for substantial furniture capable of folding into small space, so as to avoid heavy transportation charges.

Medical and surgical supplies.—A few pharmaceutical specialties are imported regularly from the United States by the local pharmacists. Other specialties come from Paris, London, Milan, and some German localities. French specialties predominate. Quinine is imported in large amounts from Italy, Germany, and London. The London brand, although more costly, is preferred, on account of its reliability. Several native physicians in the district have been trained either in the United States or in the American Medical College at Beirut, and know and appreciate standard American pharmaceutical products. In addi-

tion, an American physician has settled permanently at Harput. Under these favorable conditions vigorous attempts are being made to introduce druggists' supplies of every nature. I am glad to note a growing tendency to order surgical instruments from the United States instead of from Paris, which has hitherto supplied exclusively the needs of surgeons in this region.

AGENCIES EXTENDING AMERICAN INFLUENCE IN ASIA MINOR.

I have had occasion to revert to the work of the American missionaries and teachers settled in the district. In a thousand ways they are raising the standards of morality, of intelligence, of education, of material well-being, and of industrial enterprise. Directly or indirectly, every phase of their work is rapidly paving the way for American commerce. Special stress should be laid upon the remarkable work of the physicians who are attached to the various stations. The number of these stations is steadily growing; they now dot the map of Asia Minor at Cæsarea, Marsovan, Sivas, Adana, Aintab, Mardin, Harput, Bitlis, and Van. At most of these points well-equipped hospitals are in active operation. From the very nature of their occupation the physicians come more easily and rapidly into touch with the native population and quickly gain their confidence. The influence of the twelve American practitioners stationed at the above points is almost incalculable, radiating in each case over a large territory. As I see this group of brave and capable men, each with a practice extending over the equivalent of an average New England State, cheerfully facing an amount of work which would stagger the ordinary practitioner, for a remuneration but a mere fraction of what their professional ability would earn in their native land, I am tempted to ask if there are not equally capable young American business men, animated with the same ideals as these physicians, ready to enter upon a commercial life in the Orient? The influence of an upright, straightforward, energetic American merchant would count for almost as much, in the way of moral leaven, in the business circles of an oriental city or province as would that of the physician in its family life.

THOMAS H. NORTON, *Consul*.

HARPUR, TURKEY IN ASIA, *November 2, 1904.*

FISHERIES OF BRITISH COLUMBIA.

(From United States Consul Dudley, Vancouver, British Columbia.)

HALIBUT FISHERIES.

I have to report that considerable progress has been made in the fishing industry in British Columbia, and the vast resources of the waters of the province are being successfully exploited to a large

extent. The halibut fishing has been phenomenal, and record catches have been made. The total catch has aggregated 8,800,000 pounds. On the run are 3 steamers—two of American and one of British register—and 72 fishermen are employed. The largest catch, brought in by the steamship *Kingfisher* on February 21, 1904, scaled 225,000 pounds of marketable fish, the capture of which occupied only three days from leaving Vancouver until return, the fishing being done with 12 dories. These steamers are operated by the New England Fish Company, an American company. The halibut caught by the two American vessels are taken in the open sea and are forwarded to Boston for distribution in cold-storage express cars attached to passenger trains. The fish taken by the British vessel are sold in Canada to some extent, and the remainder are shipped to Boston, paying duty to the United States Government. By permission of the Canadian government the halibut taken by the American vessels are landed and shipped from Vancouver, and the results seem to be thoroughly satisfactory to the company. Comparatively small quantities of halibut are caught for the Canadian market, as the demand is small and no method of canning this valuable commodity has been perfected.

The halibut fishing enterprise is capable of large development. The New England Fish Company has just taken possession of a new wharf built for it by the Canadian Pacific Railway. I visited this wharf yesterday and find it the best equipped establishment of the kind I have ever seen. It has a face of 150 feet and a slip 240 feet deep on each side. All three of the steamships owned by the company can lie at the wharf and discharge at the same time. A double railway spur track runs down the wharf just far enough below the flooring to allow the cars to be loaded on the level. The upper story of the building gives ample room for offices and storage. The International Ice and Cold Store Company is just across the railway track. Ice for use of the vessels is sent from the manufactory by gravity to the crushing machine, from which the cracked ice is carried to the vessels in a pipe much like that used for filling the tenders of locomotives from the water tanks.

Until very recently the New England Fish Company has paid its fishermen 25 cents for each fish caught, besides finding them in every particular. The company has now made an effort to change the compensation of its fishermen to 1 cent per pound. This has caused a strike, but present indications are that a settlement will soon be reached and that the company will be shipping as much fish as ever within a very short time.

SEAL AND WHALE FISHERIES.

The sealers have done fairly well this year, and the owners are apparently satisfied with the results. Preparations are being made for energetic operations during the coming season.

There is also a report that the whale fishing industry is likely to receive considerable attention in the near future, and that arrangements are being made for a number of steamers to engage in the work.

FISH OIL AND GUANO.

A considerable number of Japanese have been engaged in the manufacture of fish oil and fish guano, but recently the Canadian government has caused the factories to be closed, on the ground that edible fish are being destroyed, and the food (herring principally) of the larger edible kinds depleted, and that the Japanese were failing to observe the legal weekly close season provided by the Dominion government, or to use the mesh of nets stipulated in the regulations.

SALMON FISHERIES.

The sockeye season on the Fraser River has been the most disappointing ever experienced; only about 80,000 cases (48 pounds each) have been put up in the 23 canneries operated. Overfishing and the absence of wise practices in respect to propagation are assigned as the reasons, and it is certain that unless prompt and energetic measures are adopted the industry is doomed. In this connection it is gratifying to report that a conference between the Puget Sound and the Fraser River canners has been held in Vancouver, which, it is earnestly hoped, with the assistance of the governments of the State of Washington and of the United States, will result in joint and energetic action being taken on both sides of the border to avoid so great a calamity.

At present there are hatcheries in this province as follows: Operated by the Dominion government—Bon Accord, New Westminster, capacity 10,000,000 fry; Harrison Lake (building), capacity 25,000,000 fry; Salmon Arm, capacity 20,000,000 fry; Lakelse, capacity 10,000,000 fry. Operated by the provincial government—Seaton Lake, capacity 20,000,000 fry. Operated by the British Columbia Packers' Association—Alert Bay, capacity 5,000,000 fry. Three more hatcheries, with a capacity for handling 25,000,000 fry each, have been ordered to be constructed, one on the Skeena, one on Rivers Inlet, and one on the Fraser River. These will probably be installed early in 1905, and will be available for the collection of spawn in the fall of that year. It will thus be seen that provision has already been made for handling 90,000,000 spawn, and that facilities for handling 75,000,000 more are being provided; consequently it only needs the adoption of reasonable and sensible methods for permitting fish to reach the spawning grounds to perpetuate the supply.

The northern British Columbia canneries (27 in number operated this year) on the Nasco River, Skeena River, Rivers Inlet, and other coast points have been much more successful, and it is estimated that

about 260,000 cases (48 pounds each) have been put up, but the exact figures are not available.

A number of canneries are also packing cohoes, of which there has been a fairly good run, though no figures can yet be secured.

The Dominion government this year sanctioned the use of traps in the Straits of Fuca, and two were constructed and operated with fairly good success, considering the smallness of the run.

MISCELLANEOUS FISHERIES.

Other industries in connection with the fisheries, such as the preparation of dried, smoked, and flaked salmon, cod, and halibut, sardines, crabs, dried herrings, are receiving more attention than in former years, and the prospects for a steady and profitable growth in these lines are bright.

OPENING FOR AMERICAN FISHERMEN.

The British Columbia and Alaska waters, as well as the open sea adjacent thereto, teem with cod, dogfish, herring, and other merchantable fish, which afford great opportunities for the enterprise of our citizens, and either as edible or manufacturing materials should certainly not be overlooked. The Japanese are already putting up immense quantities of salted and dried codfish, dog-salmon and herring, which they export to Japan; and an opening offers for Americans to avail themselves of the opportunities which our Canadian friends fail to utilize to the fullest extent.

L. EDWIN DUDLEY, *Consul*.

VANCOUVER, BRITISH COLUMBIA, *November 28, 1904.*

PULP WOOD AND WOOD PULP TRADE OF CANADA.

(*From United States Consul Worman, Three Rivers, Quebec.*)

TAX ON PULP WOOD SHIPPED TO THE UNITED STATES.

There is an agitation going on here against the levying of a duty on pulp wood shipped to the United States. The manner in which this duty is levied was most ingeniously devised. Most of the pulp wood is cut from crown lands, and taken by American barges direct from this territory to New York and Vermont. A tax is levied not on the export but on the cutter for the wood cut by him. This tax is refunded on all pulp wood retained in the Dominion for manufacturing purposes. Thus, indirectly, an export duty is levied.

Very recently a number of American firms exporting pulp wood from this territory have sent representatives here to make inquiries concerning this matter. They declare that it is intended to break

down American competition in the manufacture of paper, or force our concerns to establish paper factories on Canadian soil, in order to escape a tax upon the raw material, which makes it impossible for them to ship to and manufacture in the United States, in successful competition with the untaxed Canadian manufacturers.

EXPORTS OF PULP WOOD.

The total export of pulp wood from Canada in the year ended June 30, 1903, amounted to \$1,558,560, all of which went to the United States—a decided change from previous years, when Great Britain and other countries were also buyers. The table published by the agricultural department of the Dominion, covering the exports in the last fourteen years, is as follows:

Value of wood blocks and other wood, for pulp, exported from Canada, years ended June 30, 1890 to 1903.

Year ended June 30—	Total.	To Great Britain.	To United States.	To other countries.
1890	\$80,005	\$22,808	\$57,197	.....
1891	188,998	18,362	170,636	.....
1892	219,458	36,146	183,312	.....
1893	386,092	13,461	871,981	\$650
1894	393,260	24,250	369,010	.....
1895	468,009	9,396	458,613	.....
1896	627,865	27,580	600,285	.....
1897	711,152	33,931	677,221	.....
1898	912,041	34,772	876,690	579
1899	842,086	28,099	809,795	4,192
1900	902,772	38,370	864,077	325
1901	1,397,019	32,198	1,364,821	.....
1902	1,315,038	120,445	1,194,593	.....
1903	1,558,560	.....	1,558,560	.....

EXPORTS OF WOOD PULP.

The wood-pulp industry is a profitable and important offshoot of the lumber industry. The value of wood pulp exported from Canada during the fourteen years ended June 30, 1890 to 1903, was as follows:

Value of wood pulp exported from Canada, years ended June 30, 1890 to 1903.

Year ended June 30—	Total.	To Great Britain.	To United States.	To other countries.
1890	\$168,180	\$460	\$147,098	\$20,622
1891	280,619	.....	280,619	.....
1892	355,303	.....	355,303	.....
1893	465,893	1,640	464,253	.....
1894	547,217	178,255	368,256	706
1895	590,874	251,848	336,385	2,641
1896	675,777	113,557	557,085	5,135
1897	741,959	164,138	676,720	1,101
1898	1,210,421	676,100	534,305	16
1899	1,274,276	671,704	578,229	24,343
1900	1,816,016	562,178	1,193,753	60,085
1901	1,937,207	934,722	987,330	65,155
1902	2,046,398	818,580	1,170,400	57,418
1903	3,150,943	1,129,173	1,795,768	226,002

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, November 1, 1904.

DECIDUOUS FRUITS IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

Efforts of the past few years to improve the quality of deciduous fruits grown in central China are being continued, and the officials of the several provinces concerned are doing all they can to help the work. Generally speaking, the quality of these fruits grown on the plains of central China is very poor. The apples, especially, are soft, lack flavor, and have no keeping qualities. American varieties of apples and pears introduced in northern China by the missionaries a number of years ago are doing comparatively well, but even these northern products do not compare favorably with the fruit grown on the Pacific coast and shipped to China at some seasons of the year. Apples such as are grown in Missouri, Illinois, New York, and New England are unknown in China. The Chifu or northern fruit is shipped to Shanghai, Hangchau, and other central and southern ports and brings a good price, compared with other Chinese fruit products. The apples have a tendency to water core and lack the delicate and satisfactory flavor of the American fruit.

A few apple trees from Europe and Russia have been planted on the hills about Hangchau and back in the country some distance as a result of the efforts of the provincial authorities in this direction. The commissioner of customs at Hangchau, in line with the desires of the governor of the province, is experimenting with varieties of apples, pears, plums, and cherries on the hills. The governor himself also is making some experiments of this sort. Apparently there is no reason why some fruits, notably peaches and pears, should not be vastly improved by better horticulture and due regard for the needs of the soil they are grown upon.

The demand for superior fruit in central coast China evidently is on the increase. The increasing foreign population is largely responsible for this, and the increased purchasing power of the Chinese themselves is likely to give added strength to it in a comparatively short time. So far as I can learn, the only important importations of apples from the United States to China have been made to the northern ports, and these have been made by Americans largely for experimental purposes. It is too much to expect that the Chinese people will be able to buy American fruit for some time to come. They are simply unable to pay the price the fruit is worth. But the foreign population of China and the high-class Chinese who are turning to foreign ways probably offer opportunity for profitable trade by American apple and pear exporters.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA. *November 4, 1904.*

IMPROVING THE ITALIAN MERCHANT MARINE.

(From United States Consul Bardel, Bamberg, Germany.)

Strong efforts are being made in Italy to improve its merchant marine. It is claimed that foreign ships carry the greater part of the Italian emigrants, as well as of Italian freights. The main cause for the strong competition lies in the superiority of the foreign vessels, both in numbers and in construction, to those flying the Italian flag. Italian companies have had only single-screw steamers. At the present time a few twin-screw steamers are being built. During the year 1903, 40 ships of 188,805 net tons were admitted for emigrant service under the Italian flag. The foreign ships are very much larger than the Italian vessels. The two largest ships are of 5,000 tons each, whereas of the foreign vessels 23 register more than 6,000 tons each, and 1 more than 15,000 tons.

In speed the foreign fleet sailing to and from Italian ports is ahead of the Italian fleet, there being 19 foreign and 18 Italian ships having a speed up to 12 miles an hour; 10 foreign and 5 Italian ships with a speed of from 12 to 13 miles an hour; 9 foreign and 9 Italian ships with a speed of from 13 to 14 miles an hour, and 11 foreign and 6 Italian ships with a speed of more than 14 miles an hour.

The percentage of Italian emigration in Italian ships, in comparison with that in foreign bottoms, is increasing, but much will have to be done if the Italian merchant marine is to reap the harvest that goes now to foreign companies, which earn \$5,790,000 a year. In 1902 there went from Italian ports 252,234 emigrants, of whom 151,980, or 60.25 per cent, were carried in foreign vessels, and 100,254, or 39.75 per cent, went under the Italian flag. In 1903 the emigrants numbered 275,339, of whom 113,589, or 41.25 per cent, used Italian ships; 59,491, or 21.6 per cent, left on English vessels; 49,615, or 18 per cent, on German vessels; 45,731, or 16.6 per cent, on French vessels, and 6,922, or 2.5 per cent, on Spanish vessels.

W. BARDEL, *Consul.*

BAMBERG, GERMANY, *November 7, 1904.*

TENDERS FOR A RAILWAY IN PORTUGAL.

(From United States Vice-Consul Kinchant, Lisbon, Portugal.)

In the *Jornal do Commercio* of November 25, 1904, there appears a notice, inserted as authentic, that the Government intends to construct a new line of railway in the north of Portugal from Regoa to Chaves, a distance, on the map, of about 35 to 40 miles. Tenders for a loan of 1,500 contos (about \$1,200,000) are invited, and it is announced on the

same authority that the construction of the new line will begin next June.

As from the notice it appears that the Government means to construct the new line, persons or firms desirous of an opportunity for tendering for supply of material should address "O Presidente do Concelho d'Administração dos Caminhos de Ferro do Estado, Ministerio das Obras Publicas, Lisbon, Portugal," requesting an invitation to submit tenders, as was suggested in Consular Reports, No. 287, August, 1904.^a

In confirmation of the foregoing paragraph the Government Gazette (Diario do Governo) of December 1 announces that tenders are now invited for the construction of certain railway stations on the said line.

R. H. KINCHANT, *Vice-Consul*.

LISBON, PORTUGAL, *December 2, 1904.*

EXPERIMENTAL ICE BREAKER.

(From United States Consul-General Foster, Ottawa, Canada.)

An experiment is to be made this season on the St. Lawrence River with an ice breaker, the object of which is to demonstrate that navigation between Montreal and Quebec can be extended from three weeks to a month later than usual, the season generally closing about November 25.

A loaded collier will leave Sydney in time to reach Quebec during the first week of December. The intention is to have the ice breaker meet the collier about 25 miles below Quebec and accompany it up the river as far as Montreal. After discharging its cargo at Montreal the collier will clear on the return trip for Sydney, and the ice breaker will accompany it down the river until its captain is satisfied there is no further danger from ice. The Government ice breaker *Champlain* is to be employed for the purpose. This vessel is a strongly built steel steamer, with an especially heavy prow; length, 120 feet; main beam, 33 feet; depth, 17 feet 6 inches; registered tonnage, 225.21; indicated horsepower, 850.

JOHN G. FOSTER, *Consul-General*.

OTTAWA, CANADA, *November 22, 1904.*

^a The suggestions referred to by Vice-Consul Kinchant, made in a report by Consul Thierot, Lisbon, and published in Consular Reports for August, 1904, are as follows:

The first step for a firm desirous of being invited to tender is to get its name and address registered in the office of the company. This should be done by a formal application, setting forth the capabilities of the firm or individual desirous of an opportunity to tender, the nature of the material which can be furnished, and such other information as seems desirable.

The French language is well understood in all the chief offices, and while recommending the use of that language, I am not prepared to say that English would not do almost as well.

In furnishing calculations of length and weight the metric system should be used.

Having lately had occasion to make an inquiry in regard to steel rails on behalf of a correspondent, I was asked whether he had an agent in this country, and I gathered from the manner of the official from whom I made the inquiry that it would be of advantage to anyone in the United States tendering to have an agent at hand in this country.

STORE AND OFFICE CLOSING LAW OF NEW ZEALAND.

(From United States Consul-General Dillingham, Auckland, New Zealand.)

The new shops and offices act, which was passed during the last days of the last session of Parliament, makes important alterations in regard to the closing of shops and payment for overtime work. The interpretation clause remains as at present, the definition of shops and offices being unchanged.

Hour of closing.—The provisions regarding early closing are to the effect that all shops in the combined districts of Auckland, Wellington, Christchurch, and Dunedin in which two or more persons, including the occupier, are employed shall be closed for business at 6 p. m. on five days in the week, and at 9 p. m. on one day. It is provided that should the late evening fall on Christmas or New Year's eve shops may remain open till 11 p. m., and if Christmas day or New Year's day fall on a Sunday or a Monday, then shops may remain open till 11 .. m. on the preceding Saturday. Refreshment rooms are exempt from these provisions, but all other shops in which one or more assistants are employed come under their operation.

As the clause left the house of representatives it provided that on a requisition signed by a majority of the shopkeepers in any district the minister for labor should, by proclamation in the Gazette, fix the closing hour, but the Wellington shopkeepers, fearing that they would be outnumbered by the Chinese, requested the legislative council to fix the hour as it thought fit. The labor bills committee was so impressed with the arguments adduced that it inserted 6 p. m. on five days of the week and 9 p. m. on one day as the closing hours, and, after a conference, the house of representatives agreed to the amendment. In other districts shops shall be closed at an hour fixed by requisition of a majority of the shopkeepers. These requisitions may be limited to particular trades and may specify different hours for different days, or may provide for Saturday closing only. A proviso is added that only British subjects (whether by naturalization or birth) shall be deemed to be occupiers.

Shops now exempted from the Saturday half holiday are not exempted from early closing. A shopkeeper employing members of his family is compelled to close at 6 p. m. The opinion of the solicitor-general is being taken on the question of whether in the event of husband and wife serving in a shop the shop must be closed at 6 p. m.

Hours of employment.—An important alteration is made in clause 4, relating to hours of employment. Hitherto only women and young persons could not be employed more than 52 hours in any one week: this is now extended to include all employees in or about a shop.

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Employment is also limited to 9 hours in each day (exclusive of meal-times), except on the late evening, when employment may be for 11 hours. Employees may not be employed for more than 5 hours continuously, without an interval of at least an hour for meals. For the convenience of country storekeepers these provisions do not apply to shop assistants delivering goods at a distance of 4 miles and upward from the shop and not being within 3 miles of any borough or town district, but the week's work must not exceed 55 hours. For the purpose of stock taking or other special work an employer may, with the written consent of the inspector of factories, employ his staff for 3 hours per day beyond the usual working hours, but not on more than 30 days in the year. This provision formerly applied to stock taking only. Existing provisions apply with regard to the weekly half holiday, fishmongers, fruiterers, confectioners, and refreshment-room keepers being still exempt.

Several alterations are made in the conditions controlling employment in offices. It is provided that an office assistant shall not be employed in or about a business place for more than half an hour after the closing hour fixed by the act, but several exemptions are provided, a cashier being permitted to remain for a daily balance, a ledger keeper for the periodical balance of his ledger, ordinary assistants for the usual half-yearly balances, or for the purpose of writing up the books for the day's transactions, or clearing arrears due to special circumstances.

In order to prevent the evasion of the limitations of the hours of employment, it is provided that shop assistants shall not be employed in or about the shop during meal times, and the employer shall be liable if they work during these hours, whether he has assented or not.

Overtime record and payment.—A new provision imposes on the employer the duty of keeping an extra time book for the recording of all overtime, together with its purpose. This book shall be open to the inspector of factories. As the clause originally stood, all office books were to be open for inspection, but after a hard fight in the committee the foregoing compromise was agreed on. Overtime must be paid at one and one-half times the ordinary rate, with a minimum of 12 cents an hour for employees receiving \$2.50 a week or less, and 18 cents an hour for all other employees. No overtime shall be paid, however, to heads of departments receiving \$1,000 a year.

It was to this provision that warehousemen objected. Office employees in connection with warehouses have been included in the act since 1894, but, while no overtime was demanded on their behalf, they received full payment in case of illness. In view of this, and of the harmonious relations existing between employer and employed, they did not desire to be brought within the scope of the amended law. By one vote in each house, however, the motion to exclude them was lost.

Definition of "closed shop."—The definition of closed shop is amended to provide that a shop shall be deemed not to be closed if it is not locked and effectually closed against the admission of the public, or if the occupier or his employees are engaged in canvassing or delivering.

Holidays.—In regard to special holidays, including Christmas, Boxing, New Year's and Labor days, Good Friday, Easter Monday, the Sovereign's, and any other day which, by declaration of the Government, at the request of the local authorities, is generally observed as a holiday, shopkeepers may close on these days in lieu of the statutory half-holiday. When a special holiday falls on a Sunday, the next succeeding Monday shall be deemed to be the special day, and the occupier need not close his shop at 1 p. m. on the preceding Saturday, provided he closes at 1 p. m. on some other afternoon in the week.

Powers of arbitration court.—The hours of labor are subject to arbitration court award, and may, as was done in the case of grocers' assistants, be extended by the court.

Sanitation.—The provisions of existing law regarding sanitation are reenacted in a slightly amended form, as is the clause prohibiting persons affected by infectious and contagious diseases being employed in food and clothing shops.

Liability of employers and employees.—Under clause 38 of the new act an employer may, when charged with an offense, lay an information on any other person whom he alleges to be the actual offender, and the charges may be heard concurrently. If it be proved that the offense was committed without the knowledge, assent, or connivance of the occupier, and that he had done all that could be expected of him to prevent the offense, the employee and not the occupier shall be convicted. This provision is an entirely new one.

Payment of wages.—Previous legislation contained no provision relative to the payment of wages, but in the present act it is provided that every employee shall receive payment, the minimum being fixed at \$1.21 a week for the first year, with annual increases of 73 cents a week until the age of 20 is reached. A further clause provides for the payment of wages for holidays. This clause is similar to that contained in the factories act, with the exception that the minimum age of 14 is not included. Wages must be paid at intervals no longer than a fortnight, and no premium shall be paid in respect of the employment of any shop assistant. This prohibition against the payment of premiums will more particularly affect chemists, by whom premiums ranging up to \$500 have, according to the statement of the Premier in the House, been demanded.

F. DILLINGHAM, *Consul-General.*

AUCKLAND, NEW ZEALAND, November 22, 1904.

RUSSIAN CROPS IN 1904.

(From United States Consul-General Watts, St. Petersburg, Russia.)

It is officially announced that the crop of winter cereals in European Russia in the current year is considerably higher than the average in recent years, and the crop of the spring cereals was fully up to the average, if not slightly in excess of it. The Russian Statistical Bureau has just published the following figures:^a

The crop of winter rye amounted to 987,511,307 bushels, an average of 36.8 bushels to the dessiatine (2.70 acres); the crop of winter wheat amounted to 205,524,240 bushels, an average of 37.2 bushels to 2.70 acres; the total of both crops was thus 1,193,035,547 bushels. These figures show a yield of 7.38 bushels per capita beyond the amount required for sowing. The winter crop of the current year shows an excess over the average crop of the last five years (1899-1903) of more than 14 per cent. This yield is considered very satisfactory and will fully provide for the requirements of the country for the entire year.

The best crops were those of oats, spring wheat, and barley; peas and buckwheat were not so satisfactory, while the millet and maize crops are considered comparative failures. Rye is the most important of all cereals grown in Russia. The best crops were gathered in the Central, Southwestern, Little Russian, and Volga provinces; the worst were in districts of the Bessarabian, Kherson, Novgorod, St. Petersburg, and Olonetz provinces. In the south rye suffered from drought during a part of the spring and the whole summer, and in the north from cold and rainy weather, which caused late ripening and poorer quality of grain. The best crops of winter wheat were realized in the Southwestern, Little Russian, Taurida, Ekaterinoslav, Voronej, and Riazan provinces, the rest of European Russia producing about an average crop. The following provinces gave the best crops of spring wheat: The Kursk, Tambov, Kiev, Volga, Little Russian, and Ural; the Bessarabian, Kherson, and Orenburg provinces gave the worst. The best crops of oats were gathered in the Black Earth region (Kiev, Poltava, and Chernigov provinces), with the exception of the Orenburg and Astrakhan provinces, where the yield was about average, and in the White Russian, Lithuanian, Ural, Kaluga, Kostroma, Yaroslavl, and Vologda provinces, while the crop in the Bessarabian, Kherson, Taurida, and Saratov provinces, and in the Don districts, was bad. The crop of barley was good in the Volga, Southwestern, Little Russian, Kaluga, Minsk, Mohilev, Vilna, and Ural provinces, and unsatisfactory in the Vistula, Kherson, and Bessarabian provinces.

ETHELBERT WATTS, *Consul-General*.

ST. PETERSBURG, RUSSIA, *November 18, 1904.*

^a Reduced from Russian to American measures in the Bureau of Statistics, Department of Commerce and Labor.

COMMERCIAL TRAVELERS IN EUROPEAN COUNTRIES.

(From United States Consul Mowrer, Ghent, Belgium.)

Various ways and means are employed by American manufacturers to secure foreign markets for their goods and extend their export trade. In this district (Ghent) they seek to extend their trade solely by means of correspondence and the sending of catalogues, the latter usually printed in English, which defeats their purpose, Flemish and French being the language of this people. The exhibition of American goods, wares, and products has never been tried, and American traveling salesmen have not entered into competition with those from Germany, France, and England; yet sooner or later Americans who wish to sell abroad must adopt this latter means. Here in Belgium it is said "the commercial traveler is a preponderant element of the commercial prosperity of a people." The two principal qualifications of a salesman may be said to be (1) an expert knowledge of the goods he wishes to sell, and (2) a competent knowledge of the language of the country.

There are formalities to be complied with, peculiar to the different countries, which have recently been made the subject of a Belgian report. These requirements are licenses to sell goods, duty on samples carried by the salesman, and certificates of recognition. While in Germany, Austria-Hungary, France, Italy, England, and Switzerland (except for the sale of certain articles in the two last-mentioned countries) a license is not required, it amounts to 15 florins (\$6.03) in Holland, 160 crowns (\$42.88) in Denmark, and 322 rubles (\$165.83) in Russia per annum, and 100 crowns (\$26.80) in Norway and Sweden for thirty days. Norway and Sweden demand a visé of the license by the police authorities of each locality, and Denmark the visé of the license by the customs and police authorities. In lieu of licenses in Germany, France, Austria, and Switzerland certificates of recognition are required, one issued by the country for which the commercial traveler sells goods and another by the country in which he sells the goods. In Russia, the situation is more complicated, licenses, certificates of recognition, passports, and legalized industrial certificates being required.

For the transportation of samples there are other formalities. In England, Austria-Hungary, France, and Russia they are free of duty when certain customs formalities are fulfilled or on the deposit of a bond. In Italy and Holland they are also entered free of duty when they have no value of themselves. In Norway and Sweden ordinary duties are paid, but these are refunded when the goods leave the country. In Denmark the formalities are so complicated that the refunding is said to be illusive.

FRANK R. MOWRER, *Consul*.

GHENT, BELGIUM, *November 21, 1904.*

CHARCOAL MAKING AND WOOD DISTILLATION IN SWEDEN.

(Translated from the Swedish *Affärsvarlden*—*Business World*—by United States Consul Bergh, Gottenberg Sweden.)

The Egyptians extracted products from wood in a dry way, and as long as there has been iron manufacture charcoal has been produced; but the yield was only 30 per cent of the original, and the burners did not take care of such by-products as turpentine, tar, etc. Two hundred or more years ago chemistry began to be studied and employed for practical purposes. Glauber, in 1658, showed how to extract valuable products from wood. In 1812 Taylor produced wood oil, and in 1819 Colin produced wood acid. A large number of chemists afterwards showed the value of the uncondensed gases. As knowledge increased and time passed, more and more care was taken with the extracts derived from woods. After a time manufacturers began to construct charcoal furnaces of stone; still the old method is used in many places, and their output is always bad. Our iron industry can not get its full amount of charcoal, and so Sweden exports the iron ore and buys it back as pig iron, rails, etc.

Kopparbergs Bergslag, after Ljungberg's method, began making charcoal in large brick furnaces, which gave much coal. In these furnaces the burning gases pass through the wood, which is then partly consumed. The gases pass through several compartments in connection with each other, but the method is expensive and gives relatively little output. A step forward was taken by an enterprising Swede named Aslin, who made the Aktiebolaget Karbo build large retorts of iron about 9 meters (30.52 feet) high and of the same diameter, where the heat is introduced from an outer furnace and led through pipes on the inside of the retort and through a pipe in the middle. By this method tar and turpentine are taken care of, but other by-products are burned just as in Ljungberg's method. This method is perhaps better than Ljungberg's, but the process is slow and no more than twenty burnings can be made in one year, which makes it too expensive. The next step was taken by Mr. Gröndahl, with charcoal in stoves 100 and 150 meters (328 and 492 feet) long, 3 meters (9.84 feet) wide and 4 meters (13.12 feet) high. This method is used by the Herrängs Company at Ala, Ljusne. Here the charcoal output is larger, but only 2 kilograms (4.4 pounds) of oil per cubic meter (35.316 cubic feet) are obtained, and this is considered too small—it ought to be at least 18 kilograms (39.6 pounds). Even the charcoal output ought to be 25 per cent greater.

The Iron Institute of Sweden made some inquiries last year, and the Gröndahl method was considered the best at that time. Since then a new method has been invented, and a patent was applied for by the inventor, Mr. Elfström. In the year 1892 Mr. Cowan Nyberg studied the extracting method of Finland, and after 1893 a furnace was built near Umeå. Nyberg, however, died in 1898 without having completed his plans. The establishment was taken over by the Norrländska Trädestillationsbolaget, where Engineer Frans Elfström has been the leading power since 1900. After three years of expensive experiments he invented a way to distil wood with superheated steam. A patent was granted him on June 11, 1903. The method is dry distillation without allowing the product to come into contact with anything but

superheated steam. This is the newest method, and great savings are said to be the result. Besides, the method is cheap, the charcoal consumption small, the burning time short—from fifteen to twenty hours—and all the charcoal, oils, and turpentine will be saved and utilized. Nothing is lost. Concerning the turpentine it is said that it will be pure, and without the burnt smell, and may be favorably compared with the French turpentine. Some even consider it to be better. The oil output will be 25 per cent greater than that by the preceding methods.

The national profit would be very important if good methods of charcoal making were employed. It is not only the refuse of the forests in the form of roots, tops, and branches, after the trees have been cut down, that has to be reckoned with, but also the refuse from the sawmills. In the forest the refuse is one-third, and at the sawmills there are enormous quantities. For instance, a sawmill on 10,000 standards gives 1,400,000 cubic feet of wood in refuse. When turned into coal in charcoal kilns it gives about 10,000 chaldrons charcoal, representing about 33,000 crowns (\$8,844). But with the present working costs (20,000 crowns, or \$5,360), the gain from the refuse is only 13,000 crowns (\$3,484). It is calculated that the Elfström method will treble the quantity of charcoal, giving at least 27,000 chaldrons, representing about 90,000 crowns (\$24,120), and oils valued at 21,250 crowns (\$5,095). Thus the income will amount to 111,250 crowns (\$29,815), against the previous 33,000 crowns (\$8,844). The working costs taken from that, the gain will be 81,000 crowns (\$19,278), against 13,000 crowns (\$3,485) before.

The building costs are paid in one year. The possible gain of 68,000 kroner (\$18,224) can at present be counted direct loss, caused by not using the better method for utilizing the refuse at one such sawmill. How much, then, could be gained at one hundred sawmills?

Tens of millions of cubic feet of firm wood are lost by fire. It is time that we look after this. In our forests one-third of the wood is left. All fir stumps, at least, ought to be taken care of. The Trädistillationsbolaget at Umeå has begun to do so. Fir stumps are purchased and distilled in a dry way, and this leaves as chief products turpentine, tar, and oils. Half of the charcoal is used as fuel; the rest is sold. The output of oil is increased by 25 per cent. As said before, the building costs are low, very little working power is required, and good products are obtained. It seems to be time for our sawmill owners to utilize the new methods. Sunds sawmill, near Sundsvall, has bought the patent from Mr. Elfström, and is now building a plant. It is to be hoped that other sawmills will build after the same method, if it is shown to be as good as it is said to be, and then the iron works will get charcoal for smelting their ore and we shall not have to import any more pig iron into Sweden, so rich in iron, or turpentine to the value of 500,000 crowns (\$134,000) per annum, as heretofore. Perhaps the method would do for the utilization of peat, mud, and marsh grounds, from which cheaper coal and briquettes could be secured. It is possible that in this way we can best solve the peat question. Only enterprise and strong will are needed.

In commenting on the foregoing Consul Bergh says: "By reason of the statements in the above article, it seems reasonable to expect that American stump-pullers may find a market in the northern part of Sweden."

OSTEND-DOVER STEAMSHIP SERVICE.

(From United States Consul Mowrer, Ghent, Belgium.)

The Belgian Government has decided to build a new mail and passenger steamer for its Ostend-Dover line. There are now on this line nine large steamers, of which the slowest attained a speed of 19 knots on its trials, and the fastest a speed of more than 22 knots, which equals the speed of the fastest ocean greyhounds. By the present plan, the 19-knot steamers will be replaced by others capable of covering 23 knots an hour, and the slowest steamers of this service will then make 21.5 knots. The keel of the first steamer of the new type has already been laid in the shipyards of the Société Anonyme John Cockerill, at Hoboken, Belgium, and will be launched in the near future. It is said that it will surpass in luxury and comfort for passengers any channel steamers built to the present day. The increase of 1 knot in speed will be gained by the addition of 20 per cent to the strength of the machines.

Until very recently the paddle-wheel steamer has been the type generally employed in the different channel services. On the new boat for the Ostend-Dover service turbine engines will be used to drive three-screw propellers. The middle propeller will be made to turn only with a forward movement, while the two side propellers will be arranged to work in both ways of rotation. The dimensions will be, total length, 356.91 feet; length between perpendiculars, 343.91 feet; beam, 41.99 feet; draft, 23.25 feet. There will be three decks and a footbridge on the promenade deck, on which deck twenty cabins and luxurious sitting and smoking rooms will be located. A wireless telegraph apparatus will be installed and numerous water-tight compartments to prevent fatal consequences of collisions. The system of lowering the boats will be the quickest and most improved, and a powerful searchlight will be used during navigation at night.

FRANK R. MOWRER, *Consul*.

GHENT, BELGIUM, *November 22, 1904.*

COMMERCE OF THE VILAYET OF VAN.

(From United States Consul Norton, Harput, Turkey in Asia.)

The vilayet of Van as a whole is more prosperous and progressive than the region immediately south and west. There is a fair network of carriage roads, which is being steadily extended. In the city of Van there is a finely built bazar, and a marked air of commercial prosperity. American vehicles and bicycles are frequently seen in the streets, and a lofty American windmill is the most conspicuous object in the place. There are well-equipped American schools, and the schools sustained

by the Armenian residents of Van are progressive and well supported. Two large and spacious new buildings for school purposes are approaching completion.

There was a very marked depression in business in the year 1902, but in the past year commerce has returned to the normal. Formerly much traffic from Persia passed through Van on its way to the seacoast, and business houses profited more or less from this current of trade. At present this has been diverted almost entirely into other channels. The exportation of live stock, skins, and furs is increasing steadily. The vilayet has begun to export on a small scale tobacco, blankets, dairy products, and lamb's wool.

The import of cotton fabrics from England grows steadily. Much leather is imported, but it is of a very inferior quality, and complaints are numerous. There is a good market here for good leather, and a marked demand for cheap fancy goods, most of which are now supplied by France. Such articles as workbaskets, hand mirrors, stylographic pens, playing cards, fancy note paper, objects in mother-of-pearl and tortoise shell, etc., are eagerly sought for. The United States supplies but little besides cotton sheeting, sewing machines, and silver for the use of the far-famed Van silversmiths.

The activity of the revolutionary party in the vilayet of Van during the current year affects in a certain measure the trade conditions. There is much distress and poverty in many of the districts inhabited by Armenians. The price of grain is rising rapidly, and the figures for the trade of the current year will undoubtedly fall materially below those of 1903.

The following tables show the imports and exports in 1903:

Imports of the vilayet of Van in 1903.

Articles.	Value.	Places of origin.
Prints.....	\$121,320	United Kingdom, Russia.
Sugar.....	114,370	France (Marseille).
Cotton and cotton goods.....	78,000	Other provinces.
Calico.....	75,000	United Kingdom.
Woolens.....	46,250	United Kingdom, France, Germany.
Cotton yarn and thread.....	37,000	United Kingdom.
Carpets, shawls, rugs, rice, dried fruits, etc.....	37,000	Persia.
Metals.....	29,750	United Kingdom.
Coffee.....	27,500	United Kingdom, Austria-Hungary.
Leather.....	22,870	France, Austria-Hungary, Germany.
Fezes.....	22,870	Austria-Hungary.
Tea.....	15,000	United Kingdom.
Drugs.....	13,750	Do.
Crockery and lamps.....	13,750	France, Austria-Hungary.
Silk goods.....	13,750	France, Germany.
Silver bars.....	13,750	United States.
Petroleum.....	13,500	Russia.
Window glass.....	9,250	Germany.
Sundries.....	41,270	Europe.
Do.....	130,790	Other provinces.
Total.....	876,640	

Exports of the vilayet of Van in 1903.

Articles.	Value.	Destination.
Sheep	\$366,000	Other provinces.
Wool	55,000	France (Marseille).
Skins	50,200	Do.
Fur	36,600	Constantinople, Persia.
Oxen	22,500	Egypt, Syria.
Silver work	22,500	Other provinces.
Tobacco	18,500	Do.
Cloths	18,250	Do.
Horses	13,750	Do.
Mohair	13,500	France (Marseille).
Hides	9,250	United States.
Walnut wood	9,250	France (Marseille).
Wax	9,000	Manchester.
Oak galls and dried fruits	9,000	Europe.
Linseed	4,750	Other provinces.
Wheat	4,750	Other provinces, Russia.
Sundries	27,500	
Total.....	690,300	

T. H. NORTON, *Consul.*HARPOT, TURKEY IN ASIA, *November 2, 1904.*

USE OF PEAT IN SWEDEN.

(From United States Consul Bergh, Gottenborg, Sweden.)

The Business World, a leading newspaper in Sweden, contained, in a recent issue, an interesting paper on the use of peat by the State, from which I have translated the following extracts:

Complaints have been made by the Peat Industry Association of south Sweden that the Board of State Railways in its comparative calculations as to the cost of coal and peat for railway use had unduly favored English coal at the expense of peat. The association in a further memorial drew attention to erroneous statements made by the board in its reply to these charges, and a royal letter has now been sent to the Board of the State Railways, reminding the board that peat should be used on the railways to the greatest possible extent, provided no material loss is caused.

The peat industry has been advancing at a very rapid rate lately. The transforming of our peat bogs into a comparatively cheap and serviceable fuel has now reached a stage from which it can hardly lapse into such periods of inactivity as it has previously suffered. The introduction of improved methods for obtaining the peat and preparing the fuel seems to justify the expectation of a great development of the industry, the importance of which to Sweden needs no demonstration.

The Gothenburg Peat Factory (Göteborgs Torffabrik) is the name of a firm which owns four peat bogs near Landvetter station, on the Gothenburg-Borås railway line, comprising the Lundkärn's bog, 97½ tunnland (575,640 square yards), the Store Mosse, 37 tunnland (218,448 square yards), and the two Tahult's bogs, together 40 tunnland (236,160 square yards). Of these only the Lundkärn is being worked at present. It is, however, expected to last for some time, an official expert having estimated that the same quantity dug from it this year

(5,000 tons) may be obtained annually for the next twenty-eight years. The three other bogs are not yet touched and have been purchased in view of an eventual extension of the business.

The Lundkärn having been drained and cleared of vegetation in 1902, experimental digging was begun in that year and in 1903. In 1904 operations were started in earnest, all working arrangements having been completed, and a ready sale being assured, not only by contracts with the State railways, but also by an increasing demand from fuel merchants in Gothenburg.

The peat from the Landvetter bogs is of a very good quality, which is indicated by the appearance of the places where digging has begun, the subsoil consisting of tree roots, the moss on such foundation being generally good and rich. The finished peat is heavy and firm, and notable for its small percentage of ash. It gives only 2 per cent, while the State railways accept peat with as high a percentage as 8 to 12. Naturally the stokers and engine drivers are pleased with the Landvetter peat, and a special examiner sent out by the railway has expressed his approval of it. Deliveries to the State railways during the year will probably amount to about 3,000 tons, and the remainder, about 2,000 tons, will be sold to the fuel merchants in Gothenburg. The price is 11.60 kronor (\$3.11) per ton, free on rail at Landvetter.

ROBERT S. S. BERGH, *Consul*.

GOTTENBORG, SWEDEN, *November 20, 1904.*

COMMERCE OF LIBERIA.

(From United States *Chargé d'Affaires* Ellis, *Monrovia, Liberia.*)

EXPORTS.

The exports of Liberia during the six months ended June 30, 1904, amounted to \$288,393, of which \$204,707 went to Germany and \$83,686 to England. Hitherto figures have been unavailable. England, no doubt, for a long time led in the purchase of Liberian products, but in recent years the Germans have been giving a great deal of attention to this trade; they have continued to improve their transportation facilities until now they afford the Liberians better accommodations than do the English. Among the articles of export from Liberia are cassava, cocoa, coffee, ginger, ivory, kafa seeds, kola nuts, palm kernels, palm oil, piassava, hides, caoutchouc, and calabar beans. The entire export was monopolized by England and Germany.

I desire to emphasize the fact that Liberia is as yet an undeveloped country. That it has great natural resources is well known. Every possible effort is being put forth by Europeans to introduce capital into the interior of the country, but, as yet, with little success. Among Liberians there is a strong desire that American capital should seek entrance into the Republic. The English consul, thoroughly conversant with the expeditions of the West African Gold Concessions Company and its mining rights in two counties, reported to his Gov-

ernment, in 1903, that gold had been found in auriferous deposits, but in no paying reefs. For a long time copper and iron as well as gold have been worked by the natives in the interior. There are two species of elephant, which produce the large and small ivories. Cotton is indigenous to the soil and is used by the Mandingoes in the manufacture of their cloth; rubber abounds in 15 different species of vines and trees.

IMPORTS.

The imports of Liberia during the six months ended June 30, 1904, were valued at \$321,338, or \$32,955 in excess of the exports. The value of the imports from the several countries was as follows: Germany, \$158,875; England, \$141,243; Holland, \$12,827; United States, \$2,477; all other countries, \$5,916. The small amount of trade with the United States is due to the absence of direct communication more than to any other single fact. There is a very strong demand for American goods, but it has been weakened much in the past by the indifference of American manufacturers and exporters. The interest recently manifested in this trade will be well rewarded.

TRADE OUTLOOK.

The imports and exports of Liberia, as indicated in the foregoing tables, will be exceeded in the near future. For nearly ten years the interior of the Republic has been ravaged by intertribal wars. Fortunately these wars terminated last June. The interior is now open to trade, and a marked increase will characterize Liberian exports and consumption. In the six months ending last June more than 100 different classes of articles were imported, ranging from articles of food and domestic utility to the varied products for decoration, dress, and adornment. Seven lines of steamers are engaged in Liberian commerce. The ports of the Republic are in direct communication with the leading ports of Europe, and as the center of the world's industrial activities moves toward the Tropics the profits of its trade and commerce excite more and more the commercial rivalry of the Powers.

GEORGE W. ELLIS, *Chargé d'Affaires*.

MONROVIA, LIBERIA, *November 9, 1904.*

ELECTRIC PLOWS IN ITALY.

(From United States Consul General, Turin, Italy.)

The Società Elettrotecnica Italiana, of Turin, has invented and constructed devices for the application of electric power to plows and other farm machinery. The experiment of plowing by electric power was recently made near this city in the presence of representative men

from different parts of Italy, and, it is reported, with gratifying success.

The device consists of two power cars, which are stationed at each side of the field and between which are stretched cables attached to the plow. The electric current is taken from a trolley line; a current of about 500 volts is said to be needed. Each car is said to communicate 25-horsepower, which can safely be increased to 40-horsepower. The plow is pulled by the cables from one side of the field to the other, and when it reaches the end of the furrow it stops automatically, the current being cut off. It can be run backward or forward with ease. One man manages the plow, and each car is operated by one man. Thus three men do all the work.

Of course, much depends on the condition of the soil, but it is said that from 7 to 15 acres can be plowed in twelve hours. These power cars are said to be as easily managed as traction engines, and their power can be applied to thrashing machines, cornshellers, pumps, grain drills, etc.

PIETRO CUNEO, *Consul*.

TURIN, ITALY, *November 4, 1904.*

BRAZILIAN TRADE WITH THE UNITED STATES.

Consul-General Seeger, of Rio de Janeiro, Brazil, writes from Chicago, under date of December 3, 1904, as follows:

In 1903 and the first half of the current year Brazilian exports to the United States have increased, while Brazilian imports from the United States have decreased. There is a steady decrease in the imports of American flour, and the temporary reduction of the Brazilian tariff in its favor has done us no good whatever. The following remarks on this subject are from the semiofficial Brazilian Review:

No doubt there was a great deal to say about the inadvisability of discriminating duties in favor of American flour at the time they were first debated, it being desirable, so far as possible, to treat the products of all countries alike, without fear or favor; but now that it is done and seems to please Americans without much injuring anyone else, and, in fact, Argentine flour is slowly but surely making headway and ousting the American article from what were thought its own reserves in the north, it would be folly to undo it and to offend American susceptibilities without practically doing any good to ourselves.

The principal articles imported into Brazil from the United States—flour, kerosene, lumber, and machinery—being more bulky than those imported from other countries, the cost of freight constitutes naturally a larger percentage in their value. In 1903 this percentage was 21.8 for goods from the United States, 11.8 for goods from Germany, and 9.1 for goods from France. While England, Germany,

and France transport their goods in their own vessels, only a few of our sailing vessels participate in our Brazilian trade. The bulk of our merchandise imported and exported is carried in foreign bottoms, so that England and Germany participate largely in the profits of our Brazilian trade. I estimate the sums paid annually to English and German ship owners for carrying our imports to Brazil at \$2,000,000, and not much less is paid for the transportation of Brazilian coffees to the United States. It seems strange that these large sums can not be earned by American vessels.

ELECTRICAL POWER IN NEW ZEALAND.

(From United States Consul-General Dillingham, Auckland, New Zealand.)

Mr. L. M. Hancock, an American electrical engineer, who came to this colony several months ago, in response to an invitation from this government, to investigate and report on the water powers of the colony, has recently made a report in which he says that his tour through the colony has impressed him with its wonderful possibilities. He believes that both islands have great resources, which will richly repay investments, and that the development already reached is worthy of great praise. From his observation of existing conditions he found it evident that the business of the colony is developed to such an extent that larger investments in plants for generating and transmitting power will be profitable; that the industries of the colony are growing healthfully; that there is throughout the country a general feeling of confidence in the government and in trade conditions; that the government will be supported in carrying out a great industrial undertaking of this nature; that the climate and the local conditions are such that it is certain that the work will be successful; and that the water power is ample for all existing needs and all possible future growth. Mr. Hancock states that he has seldom seen so promising a country, and is sure that its people will find that, next to their railways, the utilization of their water power, by means of electrical transmission of energy, will do more to advance their material interests than any other agency they can employ.

Referring to the Auckland district, he states that the Wairua River, which is situated about 14 miles from Whangarei and 84 miles from Auckland City, has the advantage of being the nearest to the great industrial center of Auckland. A dam 30 feet to 50 feet high can be built, giving the benefits of storage and increasing the possible power production. The main disadvantage under which this locality now labors is that it is somewhat remote, and that machinery and material will have to be handled several times. At Aratiatia Rapids, on the Waikato, in the beautiful Waikato farming district, is a very valuable

power location. The grade is slight between the falls and the rapids. There is also a noted power location at Huka Falls.

On the subject of electric power for railroads Mr. Hancock counsels caution. The New Zealand railway system would, in Mr. Hancock's opinion, have to be thoroughly studied before any definite outline of a plan could be recommended. He thinks there is no question that the water power of the colony is ample to handle the whole system, and that there is no doubtful engineering problem involved. It is purely a question of business policy.

Mr. Hancock's report has caused a good deal of comment, favorable and unfavorable. Some people think that the suggestions made by him are of a perfunctory nature, and an opinion is expressed that the same information could have been supplied much more cheaply by local engineers. I am of opinion that Mr. Hancock's investigation of the subject has been very exhaustive and comprehensive, and that he is entitled to great credit for the lucid manner in which he has presented his views. At this writing New Zealand is distinctly an agricultural and dairying colony, but with the introduction of electrical energy, the colony might, and doubtless would, gradually become a manufacturing center.

F. DILLINGHAM, *Consul-General.*

AUCKLAND, NEW ZEALAND, *November 5, 1904.*

WOOD PAVEMENTS IN HULL.

(From United States Consul Hamm, Hull, England.)

Hull is making an experiment in wood pavements the results of which ought to prove interesting to every municipality desirous of obtaining the best material for paving its streets. Wood has many points in its favor as a material for street pavements. It is nearly noiseless, and is especially comfortable to the horse's feet. It can be laid as evenly as asphalt, and it has the merit of being less slippery than that material, an important feature in the pavement of the streets of many American cities where snow and ice are present during several months of the year. But wood also has its drawbacks, which some municipal authorities have found out to their cost, after having laid pavements of this kind without first investigating the subject and demonstrating which is the most suitable wood for the purpose and how it should be laid so as to get the best possible service out of it.

The experience of Hull is particularly valuable because the authorities appear to have made all proper tests and investigations, and to have reached the best results obtainable from present experience. These investigations began long enough ago to give by this time a fair test of quality and durability, and so present a comparatively complete lesson in this way.

Hull has now 13 miles of wood pavement, and wood is being gradually substituted for granite blocks in streets originally paved with the latter material. The first experiment in wood paving was made in this city in 1875, English hard wood being used. The only native wood now used is "prismatic oak," and this is employed on gradients alone. Red deal from the Baltic ports, creosoted, was also laid in 1877. In 1902 a trial was given to "red gum" wood from the United States, but this has been generally discarded. The woods which have given the best satisfaction and are now coming into general use for street pavements are obtained in West Australia. They are known as Jarrah and Karri. The first trial strips of these woods were laid in 1894, and large areas began to be laid in 1898. They are still in good condition and will probably not need repairing for a number of years to come. Jarrah and Karri woods are of a dark mahogany color, and the blocks are sawed to the size of large bricks, the actual dimensions being 3 inches thick, 4½ inches wide, and 9 inches long.

The material used is not the sole reason why wood pavements have proved a success in Hull. The care with which they are laid has had as much to do with the result as anything else. First a foundation of cement concrete 7 inches thick is put down, which is faced with Portland cement mortar composed of three parts sand to one part of cement, forming a perfectly smooth surface for receiving the wooden blocks. These blocks, with one side and one end dipped in a hot mixture of pitch and tar, are laid close together, edge up, and the joints afterwards are run full of the mixture. On the top is sprinkled at frequent intervals a coarse grit, which tends to give a continuous surface almost as hard as granite.

The cost of the material for this pavement varies according to the wood used. Creosoted red deal blocks cost \$1.38 and Jarrah and Karri \$1.86 per superficial yard. Including the cost of foundation and of laying, these pavements cost when down \$2.94 for creosoted deal and \$3.42 for Jarrah and Karri per square yard. The first creosoted deal laid with close joints was put down in 1894. It has never been repaired and is still in very good condition, although under fairly heavy traffic. The Jarrah and Karri pavements appear as if they would not need repair for a number of years.

The cost of keeping these pavements in repair is not greatly different from the cost of keeping in repair the ordinary granite-block pavements. The hardest granites are more durable, but their noisiness and the injury they cause to horses' feet make them objectionable. Another thing which makes the experiment with wood pavements in Hull interesting is the dampness of the atmosphere, which would tend to rot the wood. But they are laid with so much care and watched so continuously that this drawback seems to have been overcome.

WALTER C. HAMM, *Consul*,

HULL, ENGLAND, *December 6, 1904.*

FREE PORTS OF EUROPE.

(From United States Consul Haynes, Rouen, France.)

Last year the French Government asked all the French chambers of commerce to give their opinions on the benefit to be derived from the creation of free ports. The Dieppe Chamber of Commerce submitted the following:

HAMBURG AND BREMEN.

In connection with this subject, Hamburg is the most important and interesting port. In 1850 there entered this port 4,094 vessels with a tonnage of 547,947, while in 1900 the figures were, respectively, 13,103 and 8,041,000. This prodigious development is due to geographical situation. Hamburg, situated 66 miles from the mouth of the Elbe, which has a width of 875 yards in its passage through the city, is the last port of the North Sea that never freezes and to which there is always free access. Its geographical situation is therefore very favorable, but two other causes have equally aided its great development—the progress of steam navigation and the immense development of German industry and commerce. Sailing ships could ascend the North Sea only with difficulty. Moreover, Germany has within the last half century grown wonderfully rich industrially, and as a natural result its principal port has grown in like proportion.

Similar causes have greatly augmented during the last thirty years the port of Bremen, the competitor of Hamburg.

COPENHAGEN.

The next important free port is that of Copenhagen, due to a company which obtained a concession of 149 acres for eighty years from the Danish Government. Its development dates from 1895, and results from the efforts and energy of Danish merchants who have centralized at Copenhagen all the vitality of the country's 2,400,000 inhabitants. These efforts have increased the agricultural product of the country, which many vessels carry to England, and they have been able to induce a notable quantity of merchandise for Germany to pass through this great port.

DUTCH PORTS.

The ports of The Netherlands manifest also great activity; but in studying them it will be found that the same causes of success exist as with the ports above mentioned.

GENOA.

The growth of the port of Genoa is due more to the facilities accorded to traffic than to its being a free port. Warehouses of the very best kind are placed at the disposition of everyone, and every kind of merchandise can be mixed or changed there. But two particular events have caused the augmented activity of Genoa—increased

Italian industry in Lombardy, and the cutting of the St. Gothard tunnel, which turned from France the transit from southern Europe to Switzerland and central Europe.

FIUME AND TRIESTE.

The free ports of Fiume and Trieste owe their rapid development to their geographical situations. Since they are the only two ports of Austria-Hungary, naturally all the country's commerce must pass through them.

EFFECTS OF FREE PORTS.

It is well to remark that all the countries possessing free ports concentrate upon them all their efforts and their capital, leaving the secondary ports to shift for themselves. We do not believe it right to favor any particular port in France at the expense of the many little rivals, taking from them all hope of improving the commercial destiny of their region. In well organized countries everything should be distributed as much as possible and not concentrated upon one or two points.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *December 3, 1904.*

COMMERCE OF THE VILAYET OF BITLIS.

(From United States Consul Norton, Harput, Turkey in Asia.)

During a recent visit in the adjoining vilayet of Bitlis I collected the following data:

The vilayet is one of the most backward in the Ottoman Empire. Its remoteness from seaports, the absence of wagon roads, and the lack of security unite to prevent any such degree of progress as is observed elsewhere. Education is most elementary. The well-equipped schools in the city of Bitlis, established and sustained by American benevolence, have found but few imitators thus far.

The growing poverty and the effect of brigandage and revolutionary disturbances on production and commerce are abundantly shown by the steady decrease in imports. During the closing years of the last century the value of the annual imports averaged about \$600,000. In 1902 the figures sank to \$450,000, and in 1903 to a little over \$200,000.

Exports now average \$160,000 per annum as compared with about \$138,000 five years ago. There is a steady increase in the amounts of sugar and tea imported, but a decrease in coffee, and a very marked decrease in the importation of the striped cotton fabrics so largely used for the holiday attire of most of the population. A rather considerable export of tobacco to Persia has completely disappeared as the result of new tariffs and requirements on the Persian frontier. During the speculative season of 1903 a large amount of cotton was

sent to Russia. This was exceptional, as the cotton produced in the vilayet rarely leaves the region except when woven into cloth.

There are no representatives of foreign houses established at Bitlis. Trade is carried on almost entirely through agents at Erzerum, Trebizond, and Constantinople, who are generally relatives of the local merchants. There is much mineral wealth in the mountains, but no mines are at present operated. Deposits of iron, lead, and copper have been worked in earlier ages. The salt springs of Sert form one of the most valuable assets. The extensive salt gardens are under the control of the commission of the Ottoman public debt, and yield nearly 16,000,000 pounds per annum. This is all used in supplying the demands of the vilayets of Bitlis, Van, Mosul, Diarbekr, and Mamuret-ul-Aziz.

The following tables show the commercial exchanges in the year 1903:

Value of imports into the vilayet of Bitlis in 1903.

Articles.	Value.	Place of origin.
Cotton goods.....	\$82,500	United Kingdom, Germany, Austria-Hungary.
Dyes.....	27,500	United Kingdom.
Woolens.....	27,500	Germany.
Cotton and cotton goods.....	27,000	Other provinces.
Sugar.....	14,000	France, Austria-Hungary.
Petroleum.....	6,800	Russia.
Leather.....	4,500	France, Austria-Hungary, Germany.
Carpets, shawls, rugs, rice, dried fruits, etc.	4,500	Persia.
Metals.....	4,100	France, Austria-Hungary, Italy.
Coffee.....	1,350	France, Austria-Hungary.
Sundries.....	37,600	
Total.....	237,350	

Value of exports from the vilayet of Bitlis in 1903.

Articles.	Value.	Destination.
Salt.....	\$240,000	Other provinces.
Cloths.....	70,000	Do.
Cotton.....	35,000	Russia.
Skins.....	16,700	Marseille, France, and the United States.
Mohair.....	16,500	Marseille, France.
Furs.....	9,000	Constantinople, Turkey, and Russia.
Wax.....	1,350	Manchester, England.
Walnut wood.....	2,750	Marseille, France.
Sundries.....	12,650	
Total.....	403,950	

T. H. NORTON, *Consul.*

HARPUR, TURKEY IN ASIA, *November 2, 1904.*

SAFEGUARDING RAILWAY SHUNTERS.

(From United States Consul Hamm, Hull, England.)

The following account of the trial of two new inventions for the prevention of accidents to railway shunters will be interesting to railroad managers in the United States. Anything that will lessen the

number of accidents to this class of employees, whose work is particularly hazardous, should be welcome. The account is taken from the *Yorkshire Post* of December 3:

Two new inventions that promise materially to assist the shunter in the performance of his hazardous duties were given a practical trial at Hither Green, on the Southeastern and Chatham Railway, yesterday, before a number of railway officials, including representatives from nearly every line in the Kingdom.

The first of these inventions consists of a coupling clip and stick, and the trial was designed to demonstrate their superiority over the hooked coupling pole now almost universally used on British railways. The clip is a small metal hook, provided with lugs, so that it can be readily affixed to the third link of the three-link coupling chain, now the standard coupling for goods cars in this country. Its position being at the junction of the second hook enables the straight iron head of the shunting stick to be inserted in the clip, and with a straight movement of the arms the coupling is swung onto the drawbar hook of the next car. There is no possibility of the stick jamming, as so often occurs in the use of the hooked coupling stick, and this fruitful source of accidents is therefore avoided.

Yesterday the operations were carried out by both professional and amateur shunters with perfect success, one noticeable feature being the ease with which the stick, guided by the middle link, found its way into the hook—no small consideration when shunting at night. An ordinary chain coupling weighs 34 pounds, and this will be increased to 42 pounds, when the new regulations of the Railway Clearing House come into force, larger and stronger couplings having been deemed desirable in view of the increasing size of the cars and the heavier loads which the use of more powerful engines has rendered possible. At the end of a pole the apparent weight of coupling is of course much greater, and any device that allows the coupling to be more easily manipulated is an advantage.

The second of the series of trials was of the new improved Invicta brake for freight cars. This brake, after a long period of experiment, is being fitted to new cars built by the Southeastern and Chatham Railway. As long ago as 1900 the Royal Commission on Railway Accidents, with a view to removing all necessity for shunters passing between the cars of a train, suggested that brake gear, which is now generally fitted on one side only, should be fitted on both sides and should be such that the gear could be operated with equal ease from either side of the car. It is claimed by the inventor that not only are these requirements met in the Invicta brake, but that it offers several special advantages, including ease of manipulation, effective brake power, and absence of brake pins, and it renders unnecessary the use of a brake stick.

On the whole the railway experts who witnessed the trials were favorably impressed. The shunters in the employment of the Southeastern and Chatham Railway are said to approve highly of the Invicta brake, and in Wales the Tredegar Branch of the Amalgamated Society of Railway Servants has formally recorded their appreciation of the advantages which its use confers on all railway men engaged in shunting operations.

WALTER C. HAMM, *Consul*.

HULL, ENGLAND, *December 3, 1904.*

BRITISH CONSULS AND CANADIAN TRADE.

Under date of December 12, 1904, United States Consul James M. Shepard, of Hamilton, Ontario, transmits the following article from the *Canadian Manufacturer* of December 2, relative to the possibility of making some arrangement with the British Government whereby the British consular system might be made of service to Canada in its efforts for the enlargement of its commercial relations with foreign countries:

CANADA'S COMMERCIAL AGENCIES.

The aspirations of Canadian manufacturers and others who are interested in exporting their products are most seriously handicapped by lack of sufficient and accurate knowledge regarding the commercial conditions prevailing in other countries. It is true the department of trade and commerce issues a weekly publication in which are given synopses of the reports received from the commercial agents in Great Britain and a few other countries, and these, as a general thing, possess much value. But these agencies are far too few in number, a great many commercial centers not being served at all—centers in which both Canadian exporters and importers have much commercial interest. The weekly reports very properly contain the names and addresses of these Canadian commercial agents, about a couple of dozen in number.

It would appear to some that the Canadian government might have some arrangement with the British Government under which the British consular system might be made of service to Canada, but it should be remembered that the reports of British consuls and commercial agents are not available even to British merchants except through blue books which have no gratuitous distribution. The reports, too, of these consuls and commercial agents are generally of a perfunctory character, and possess but very little information that would be of value in Canada. Of course there are exceptions to this rule, as shown in a letter recently received at the department of trade and commerce from British Consul-General Alexander Finn, at Chicago, who said:

"I take this opportunity of pointing out to you that this consulate is always ready to do anything in its power to assist the commerce of any portion of the British Empire, but that few Canadians ask us for information, while we are flooded with inquiries from exporters of the United States. As you are superintendent of Canadian commercial agencies, I should suggest that you regard this consulate as one of your agencies, and make all possible use of my staff and their knowledge of the trade and capabilities of this consular district."

This is a generous proposition which Canada should appreciate; and it is to be hoped that there are many other British consuls in different parts of the world who are thus willing to serve this country; but such service should not be requested without adequate remuneration therefor.

As we have suggested, the British consular service is not at all adapted to Canadian requirements. This is in evidence from a report made by Mr. J. D. Allan, vice-president of the Toronto Board of Trade, recently returned from a business tour through European

countries. He gave a list of unpronounceable names of British consuls he had encountered, and stated that not only are more than 40 per cent of Great Britain's agents of commerce aliens, from whom a loyal and devoted service to a strange land can not be expected, especially when paid such niggardly salaries as £19 per annum, but they are, for the most part, men with no business training and of surprising indifference to their responsibilities. Many of these whom Mr. Allan met regard their post as such a sinecure that they have not even regular business hours. Last year a firm in England wrote to a British consul in South America and received this characteristic reply: "It would appear from your letter that you have need of an agent to look after your trade interests in this place, but this consulate is unable to act in that capacity." Mr. Allan pointed out the disposition of Britain's commercial attachés throughout Europe, which is more inconsistent than unique. One commercial attaché for Austria-Hungary, Greece, and Italy is a sample of Great Britain's policy in this respect, while there is but one for France, Belgium, and Switzerland put together, who, "because of so much spare time," Mr. Allan interjected, is also one of the British administrators of the Suez Canal. One commercial attaché is also considered sufficient for Germany, Holland, Denmark, Sweden and Norway. In traveling through that wonderful manufacturing region between Spa and Aix la Chapelle, where tall chimneys bound the view and industry throbs, Mr. Allan searched in vain for a single British consular agent. In busy Westphalia, with its great centers, such as Essen, Düsseldorf, Crefeld, Elberfeld, Solingen, and Mülheim, Great Britain has but one consul, at a salary of £250, and a vice-consul without salary.

"If Great Britain," said Mr. Allan, "as a nation of shopkeepers, would have shopkeepers, figuratively speaking, among her consuls, she need have no fear of other nations underselling her abroad."

The letter of Consul-General Finn, at Chicago, was written in acknowledgment of a copy of the Canadian Industrial Blue Book, containing a list of names of some ten thousand Canadian manufacturers and exporters of Canadian products, a large number of which have been purchased by the department of trade and commerce and sent to British consuls in the United States and other countries. The book is the product of private Canadian enterprise, the value of which is appreciated by the department.

The consular service of the United States is, without doubt, the best and most comprehensive in the world, and to this fact is to be attributed to a great extent the large and rapidly growing export trade in manufactured products of that country, and it is to be hoped that, not neglecting any good thing that may be obtained through the British service, that of the United States will be adopted by Canada so far as possible. Whatever commercial future there may be for Canada will be measured by the strength or weakness of her department of trade and commerce, and the matter of large and intelligent representation in the commercial centers of the world should have immediate attention.

FRENCH TARIFF CHANGES.

(From United States Consul Haynes, Rouen, France.)

Two tariff measures have recently alarmed French exporters. Formerly silk tissues, silk floss, and pure silk foulards entered France as freely as pure silk thread and raw silk. The French industry naturally had no cause to complain of this trade, as it increased the activity of the dye works, etc. The many manufacturers who utilized pure silk goods by transforming them into clothing of every kind obtained by this means their raw materials as cheaply as they could be found anywhere. It was an inducement for foreign buyers to find in France what in Switzerland, Germany, and Italy was taxed.

Afterwards silk tissues, crapes, tulles, foulards, and laces were submitted to a tariff of 4 francs per kilogram (77.2 cents per 2.2046 pounds), which was the minimum tariff, with an exception in the favor of raw silks of Asiatic origin, which were allowed to enter free.

A few days ago, however, to the surprise of the French silk industry, the administration of customs issued a circular submitting these raw silks of extra-European origin to a tax of 6 francs per kilogram (\$1.158 per 2.2046 pounds), to go into effect January 1, 1905. Manufacturers and merchants have vigorously protested against this measure, which taxes a necessity worth 58 francs a kilogram (\$11.19 per 2.2046 pounds) at more than 10 per cent of its value.

Another measure more menacing than this threatens the silk industry. The commission of customs is in favor of putting on pure silk tissues of European origin a tariff of 7.50 francs per kilogram (\$1.45 per 2.2046 pounds) instead of 4 francs (77.2 cents), thus raising them to about 125 per cent of their present average value, and of raising the duty on extra-European raw silks, or pongees, to 9 francs (\$1.76). In commenting upon this the *Revue de Commerce Extérieur*, Paris, says:

The blow will be terrible for all industries interested in the finer articles into which silk enters. It is incomprehensible why a tax is levied upon these Asiatic silk tissues, which are not made in France, and perhaps never will be. No less can the application of any kind of tax on pongees, tussah, cerah, and tussure, which are not manufactured in France, be explained. As for the additional tax on other tissues of pure silk it can only be explained by the hypothesis that it serves to obtain new tariff reductions from Switzerland.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, December 5, 1904.

RAILWAY EXTENSION IN NORTHERN MEXICO.

(From United States Consul Kindrick, Ciudad Juarez, Mexico.)

The Rio Grande, Sierra Madre and Pacific Railroad was recently purchased by Mr. W. C. Greene and associates, and the formal transfer of the property was made in New York on the 3d of the present month. This railway was constructed seven years ago by New York capitalists. It runs from Ciudad Juarez to Casas Grandes, in a south-westerly direction, for a distance of 156 miles. It was the intention of the original promoters to extend the line into the Sierra Madre, in order to develop and exploit mining and timber properties, and ultimately to build the road to the Pacific coast. These plans, however, were never consummated, and for that reason the property failed to pay dividends. Negotiations have been opened for the sale of the road several times in the past two or three years.

Mr. Greene had already acquired control of several millions of acres of timber lands in the Sierra Madre, besides a great number of valuable mining claims. He desired to use the timber principally for the Cananea and other mines, which consume many thousands of dollars' worth annually, and to open his undeveloped mines to the smelters. The plans of Mr. Greene embrace the construction of a road from the present terminus of the line into the timber section; a line to his Mulatos gold mines in the State of Sonora; a line from Guzman to Cananea, and one from Cananea to the Sonora Railway near Nogales. Sawmills, planing mills, and smelters will be erected, millions of acres of land will be stocked with sheep and cattle, and coal deposits in Sonora will be developed.

Mr. Greene's enterprises involve the expenditure of many millions of dollars. Some of the richest latent resources of northwestern Mexico will be developed. Mexico will be greatly benefited, in that Sonora and the northwestern section will be reached without crossing the border of the United States.

CHARLES W. KINDRICK, *Consul.*

CIUDAD JUAREZ, MEXICO, *December 10, 1904.*

CLOSURE OF THE HALIFAX DOCKYARD.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

Orders were issued yesterday to close the Halifax dockyard, and its 300 employees were given one week's notice of dismissal. This is said to be in line with the new plans for reorganizing the British navy—which change the system under which a fleet has had its headquarters at Halifax or Bermuda, substituting for this fleet a large flying squad,

ron in touch with other waters, and leaving only two or three British ships on this station. It is said that the *Ariadne* will be withdrawn, not to be replaced, which, it is asserted, makes a great dockyard unnecessary.

The dockyard, which was commenced in 1758 and completed in 1770, is one of the most extensive properties held by the Imperial Government in Halifax. Large and complete workshops have been erected within its walls, and many of the ships of the British navy have been overhauled and repaired there. Year after year additions and improvements have been made to the equipment of the dockyard, and at the present time almost any kind of work can be done there upon short notice. The pay roll now amounts to \$1,000 a week.

It is stated that the Admiralty House will be disused or sold for private purposes, and that, perhaps, the naval hospital will no longer be required, in which case a further large amount of land will be available for commercial or residential purposes. It is probable that the ground vacated as a result of the closing of the works, which is by far the most valuable part of the water front, will pass to the control of the Intercolonial Railway, which is handicapped for room at its deep water terminals.

W. R. HOLLOWAY, *Consul-General*.

HALIFAX, NOVA SCOTIA, *December 16, 1904.*

AMERICAN AND GERMAN GOODS IN QUEBEC.

(From United States Consul Worman, Three Rivers, Quebec.)

American goods are in evidence in this province, in most instances in close competition with those from Germany. Inquiry reveals the fact that, despite the retaliatory tariff, the Canadian retailer continues to give the preference to goods made in Germany. Possibly the German manufacturers and exporters make good the loss to the importer, the jobber, or retailer. An old illustration is the branch of cutlery. English cutlery is almost entirely disappearing from this market, and wherever American cutlery is carried alongside of German makes the dealer will try to enlist the buyer's sympathy for the German-made goods, although it is generally conceded that American cutlery has in recent years been brought to such excellence as to equal the best English ware. It would be a wise step for the manufacturers in this branch of trade to ascertain, by painstaking inquiry, the Canadian dealers who give American goods an equal chance with those of England, France, and Germany, and then to make trade connections with them.

To crockery and porcelain the same remarks apply as to cutlery. But little American ware is sold in comparison with the large quan-

tities obtained from the German markets. The same report is to be made regarding the sale of enamel ware, American makes of which at one time prevailed in Canada. The Germans have so perfectly met the wants of the consumer, and are supplying the goods at such low prices, as to win the favor of the purchaser. In silver-plated ware American goods gained predominance years ago, and still hold their own in the markets of the Dominion in the face of persistent efforts on the part of the Germans.

The drug market, although in certain ways dependent on French taste, has, nevertheless, in recent years, been decidedly favorable to American goods, and there are further gains easily to be made. In stationery and wall paper our trade has to meet severe competition, but is steadily gaining. A fair market is open to American hardware, and could be made much larger by proper attention to the class of goods wanted.

American manufacturers rely too exclusively on Canadian wholesale houses to introduce their wares. These general agents usually represent many firms, many lines, and many countries, and are influenced, as I have already indicated. American manufacturers should send special agents, as do the Germans, to study Canadian wants and push the sale of their wares themselves. Commercial travelers, who know how to point out the superiority of their goods, should be sent to sell directly to the trade.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *November 1, 1904.*

COFFEE CULTURE IN QUEENSLAND.

(*From United States Consul Goding, Newcastle, New South Wales.*)

The coffee plantations in the north of Queensland have yielded a good crop of berries this year. Coffee has not been so extensively cultivated as might have been expected from the possible profits and the open market for the product. As far back as 1864 the coffee tree was introduced into Queensland in the neighborhood of Bowling Green Bay, but not till some years later were efforts made to turn its cultivation into a paying industry. It is estimated that the plantations cover about 400 acres. The Queensland soil and climate in the north are well adapted for growing the berries. On well-kept plantations 1,120 pounds to the acre can easily be raised; as much as 2,240 pounds have been picked from an acre. The cost of picking and hulling is under \$14.60 per acre, and the average price for unroasted berries is about \$19.46 per hundredweight (112 pounds). While coffee as a daily beverage is not as popular in Australia as tea, there is yet a large demand for it. Tons of the product are imported every year. It was

stated recently that the Government is about to assist in the development of the coffee industry by establishing a central hulling and drying plant in the north, and that it will receive, clean, and market the berries for the growers.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *October 18, 1904.*

KEROSENE IN LIBERIA.

(*From United States Chargé d'Affaires Ellis, Monrovia, Liberia.*)

During the three months ended December 31, 1903, 947 cases (9,470 gallons) of kerosene were imported into Liberia, of which England supplied 23 per cent, Germany 45 per cent, and other countries 32 per cent. This kerosene is imported in cases containing 2 tins of 5 gallons each. It is retailed here at \$3 a case or 30 cents a gallon. The consumption is far less than it would be but for the prices fixed by Liberian merchants, which place it beyond the buying power of the poorer classes. No doubt the profits are large, but they would be larger if the prices were reduced so that the oil could have a wider market. The dominant spirit of West African commerce, I am sorry to say, does not appear to aim at a fair exchange of products, value for value. Everybody sells as though each sale were to be his last.

No doubt the appearance of the United States as a competitor for the trade of West Africa will not be delayed much longer. This country will be a field of operation for the great economic movements of the future. With superior goods and superior methods the United States would be a formidable rival of those who now control the trade.

GEORGE W. ELLIS, Jr., *Chargé d'Affaires.*

MONROVIA, LIBERIA, *October 27, 1904.*

TRADE AND INDUSTRIES OF DIEPPE.

(*From United States Consul Haynes, Rouen, France.*)

PORT OF DIEPPE.

The name Dieppe comes from *deppa*, which means deep, and, true to its name, it is said to be the surest and deepest port on the English Channel. Its entry is composed of two jetties, known as the east and the west, being, respectively, 2,060 and 2,247 feet long. Between these is a channel 246 feet wide and 23 feet deep at neap tides, giving access to the outer port, which covers a little over 16 acres and has 2,854 feet of quays. The Pollet Channel connects the outer and inner ports. The latter contains 10 acres, 919 feet of quays, and 64,580 square feet

of vacant space for discharged goods. Behind the inner port there extend four tide basins covering 34 acres, with 9,200 feet of quays and 1,000,000 square feet of surface. The port is provided with a crane of 30 tons, 19 steam cranes, a graving dock 387 feet long, and other appurtenances. The entry is signaled by five lights—three fixed white lights 35 feet from the extremity of the east jetty; a white light and a fixed red sector with fog bell on the wing of the west jetty; and a green light near the extremity of the west jetty.

FISHERIES.

A great number of Dieppe boats are occupied in cod fishing on the banks of Newfoundland and the coasts of Ireland, and in herring and mackerel fishing. The products from the fisheries in 1903 were greater than ever before. In 1901 their value was \$374,568; in 1902, \$424,265; and in 1903, \$457,982.

INDUSTRIES.

Dieppe is renowned for its works of ivory—little masterpieces of taste, art, and patience—and for its laces. It possesses also steam saw-mills, a tobacco factory employing over 1,500 workmen, machine and marine boiler workshops, shipbuilding plants, manufactories of rope, chemical products, briquettes, oil, paper, and other industries. The only article going from Dieppe to the United States is flint pebbles.

AMERICAN PRODUCTS IN DIEPPE.

The only American product entering the port by water is soft wood for building purposes. Entering by rail from Paris agencies are the general run of American articles to be found in northern France—typewriters, agricultural implements, dried fruits, canned goods, etc. There is no reason why a market could not be created at Dieppe for the same classes of goods that are consumed at Rouen.

PASSENGERS ENTERED AT DIEPPE.

There is a tax of 19.3 cents on every passenger debarking at Dieppe. The number of passengers entering on the Dieppe-Newhaven boats has for several years varied between 150,000 and 199,000, with the exception of 1900, exposition year, when it reached 265,395. This tax and that of 5.79 cents on each ton of shipping, which last year amounted to \$22,212, goes to the Dieppe Chamber of Commerce as reimbursement for work done on the port.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, December 3, 1904.

RECIPROCITY AND PREFERENTIAL TARIFF DISCUSSIONS IN CANADA.

(From United States Vice-Consul-General Hill, Halifax, Nova Scotia.)

There has been some discussion recently concerning a new reciprocity treaty with the United States. It is admitted that the ten years from 1854 to 1864, when Canada enjoyed reciprocity with the United States, were the most prosperous in her history, but, the treaty having been terminated by the United States, it is taken for granted that American public sentiment is opposed to its renewal, and that Canada must await the action of the United States and permit overtures to come from the party that terminated the treaty. The Canadian Manufacturers' Association at its recent annual meeting decided to stand fast on that question awaiting the action of the United States. On the tariff, it resolved—

That the changed conditions which now obtain in Canada demand the immediate and thorough revision of the tariff upon lines which will more effectually transfer to the workshops of our Dominion the manufacture of many of the goods which we now import from other countries.

The association reported against the adoption of the metric system until it should be adopted by both Great Britain and the United States; and favored reducing the number of holidays; the establishing of new steamships for the benefit of Canada's foreign trade; establishing closer trade relations with Australia, Mexico, and the South American States; Government supervision of rates, sailings, etc., in order to encourage shippers to patronize Canadian ports and lines; placing express companies in Canada under the board of railroad commissioners; establishing a fast Canadian Atlantic steamship service that will compete with other Atlantic lines; providing for the lawful importation of skilled mechanics from any other country, in case the help required can not be obtained in the Dominion, and encouraging the immigration of the best classes of skilled workmen, provided these workmen are required in Canadian industries and can not be secured in Canada.

While the Manufacturers' Association is favorable to the preferential tariff with Great Britain, provided the minimum tariff shall be high enough to afford adequate protection to Canadian industries, it is proposing to organize an excursion to England during the coming year for the purpose of urging certain changes in the way of reciprocity, and says:

We simply ask that the duties now imposed on tea, coffee, chicory, cocoa, and chocolate produced within the Empire be removed, and that the revenue now obtained from the taxes on these articles, which

are used by every British family, be raised by imposing small duties upon foodstuffs imported from foreign countries. The Manufacturers' Association says that the revenue derived from the taxes on tea, coffee, chocolate, chicory, and cocoa produced within the Empire amounted to \$26,000,000 annually, even before the recent increase in the tea duty, and that if these taxes were transferred to foreign food products the colonies would receive a very substantial preference.

GEORGE HILL, *Vice-Consul-General.*

HALIFAX, NOVA SCOTIA, *November 22, 1904.*

MACHINE TOOLS AND MACHINE-SHOP EQUIPMENTS IN SMYRNA.

(*From United States Consul Lane, Smyrna, Turkey in Asia.*)

I am asked by the publisher of an industrial journal in New York City for the names of local concerns using machine tools, metal-working machinery, machine-shop equipment, etc. As I believe this information may be of value to the general public, I send the report to the Department.

The Ottoman Railway Company, Smyrna to Aidin, has a large general machine shop for repairs to rolling stock, track, and bridge work. The company is about to construct a deep-water pier, the material for which is now being ordered. The pier will be of wood, iron, and stone. It is proposed to expend \$800,000 to \$1,000,000 in this work. One contract for about \$30,000 worth of Pensacola pine was placed last year and another for about \$50,000 has been signed recently, shipment to be made in January, 1905. Both of these orders are with American dealers and the result of a report from this office, published in Consular Reports for May, 1903.

The Smyrna Cassaba Prolongement Railway has large machine shops for the repair of rolling stock, bridges, etc. The Compagnie Ottoman des Eaux de Smyrne has an extensive machine shop for use in connection with the city waterworks. The Ottoman Gas Company of Smyrna has a large machine shop in connection with the city gas plant. The Compagnie Hamidiea des Bateaus de Smyrne has a machine shop for repairing small steamships. Rankin and Demas have a machine shop and foundry. Issigonis Brothers have a machine shop and foundry. Rice Brothers have a general machine shop and foundry.

RUFUS W. LANE, *Consul.*

SMYRNA, TURKEY IN ASIA, *November 29, 1904.*

PROPOSED INDUSTRIAL TRUST IN SWEDEN.

(From United States Consul Bergh, Gottenborg, Sweden.)

The press here says that reports are current indicating negotiations for the association or coalition of four industrial works in Sweden, which own mines, ironworks, wood-pulp mills, etc. The names of the firms are: Hellefors Bruks Aktiebolag, Sikfors Bruks Aktiebolag, Grawendals Aktiebolag, and Elfvestorps Aktiebolag. Hellefors Bruks Aktiebolag has a capital stock of about \$1,206,000, which, it is stated, gave little or no dividends during the years 1895 to 1901. The company owns valuable forests, however. It has recently acquired the majority of the shares in the Sikfors Bruks Aktiebolag, with a capital stock of about \$134,000. Grawendals Aktiebolag has a capital stock of about \$562,800, which, during the years 1895 to 1903, yielded dividends varying from 5 to 8 per cent. Elfvestorps Aktiebolag has a capital stock of about \$194,300, which during the years 1899 to 1902 gave no dividends.

It is remarked that the above-mentioned plan is a new manifestation of the activity which now and then prevails in the Swedish industries, and which lately was noticed in the transaction with the Gysinge and Vattholma concerns and the unsuccessful attempts to form a steel trust. It is further stated that these industrial combinations are caused by the keen competition which necessitates cheapening of their product, which is difficult to accomplish under the present proprietary conditions.

ROBERT S. S. BERGH, *Consul.*

GOTTENBORG, SWEDEN, *November 21, 1904.*

EXPORT OF QUEENSLAND WHEAT.

(From United States Consul Goding, Newcastle, New South Wales.)

The first shipment of wheat was recently made from Queensland—doubtless the beginning of an export trade which may assume large proportions. Unfortunately it was not surplus production. This state requires for its own necessities 1,000,000 bushels more than were grown last year. It is estimated that 10 per cent more land has been put under wheat in 1904 than in 1903. Each year will probably see an increase. Besides the vast areas on the Downs and in the Maranoa district, extending for many miles from Taroom to the southern border at Goondiwindi, and in the central districts about Emerald and Gindi, and on the Dawson River, there are immense tracts of land that will possibly yield rich wheat harvests in days to come. The present government is endeavoring by means of experimental farms to encourage the extension of wheat growing. Selections from the imports of last year have been made of the kinds of grain which will

best resist rust and produce the best harvests, and sufficient of these have been planted to supply the farmers of the Downs with seed for the coming season. During the past three years there has been a great increase in the acreage under wheat and in the amount of grain grown. In 1900 the area in wheat was 79,304 acres, and the yield was 1,194,088 bushels. In 1903 the area had increased to 138,096 acres and the yield to 2,436,799 bushels. Progress at the same rate for a few years will produce sufficient for the State and for a not insignificant export trade.

F. W. GODING, *Consul.*

NEWCASTLE, NEW SOUTH WALES, *October 14, 1904.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

The following notes concerning business opportunities abroad are derived from various German sources:

RAILROADS.

Argentina.—A railroad is to be built from Puerto de San Nicolas de los Arroyos to Bragado, Argentina.

Italy.—A steam line is to be constructed between Livorno and Vada, in Italy. It will receive an annual subvention from the Italian Government.

Mexico.—José H. Hampson, of the City of Mexico, has received the concession for building a railroad from Rancho del Guarda to Canada de Nepancpa, in the Federal District.

Roumania.—Next spring the Roumanian Government will begin the construction of a railroad line from Valea Caprei to Turn-Severin.

RAILROAD EQUIPMENT, STRUCTURAL IRON, ETC.

Austria-Hungary.—The directors of the city tramways, Anschütz-gasse 15, Vienna, Austria, are to purchase 3,000 car-wheel tires.

Belgium.—The department of the Belgian State railroads is to open bids for the delivery of 1,000 freight cars of 15 tons capacity each, 700 freight cars of 10 tons capacity each, 100 baggage cars, and 1,200 coal cars.

The Government of Belgium will receive proposals for furnishing 1,000 tons of steel rails, to weigh 52 kilos, or 114.64 pounds, per meter (39.37 inches), of the profile Vignole pattern.

Iron storage sheds are to be erected at the new wharves at Antwerp; estimated cost, \$48,080.

Bulgaria.—The Bulgarian Government will expend 4,500,000 francs (\$668,500) for the purchase of 20 locomotives, 550 freight cars, 60 passenger cars, and 10 mail cars,

Italy.—The Italian Government is about to make large additions to the rolling stock (locomotives and cars) of the State railroads.

Netherlands.—The Dutch minister for the colonies at The Hague, Netherlands, will soon award contracts for a large amount of materials for railroad use, also the ironwork for railroad bridges, iron tubing, etc. He is now receiving bids for furnishing the ironwork of a railroad viaduct over the Tje-Koebang, Java.

The contract for the upper structure of the railroad bridge across the North Sea Canal at Zaandam, Netherlands, is to be awarded by the directors of the Netherlands State railways at Amsterdam; estimated cost, 585,000 florins (\$293,170).

ELECTRIC RAILWAYS, ELECTRICAL EQUIPMENT, ETC.

Australia.—The government of Victoria, Australia, plans the construction of an electric tramway between St. Kilda and Brighton Beach, to cost \$455,000.

Austria-Hungary.—An electric power station for the Danube Canal is to be built. Application for information should be made to the Danube Commission, No. 1 Kaiser Ferdinandplatz, Vienna, Austria.

The city of Reichenberg, Bohemia, Austria, will erect large electric works.

Netherlands.—"Haag Tramway Maatschappij," at The Hague, Netherlands, will receive bids for supplying 25 electric motor cars. The director of this company will furnish particulars to inquirers.

Servia.—The governmental construction bureau of Servia at Belgrade will contract for a large quantity of telephone materials, and cement, plates, etc.

Spain.—Concessions for the building of electric tramways have been asked for by the city of Vigo, Spain, by the Sociedad Colonia Sanatorio de la Playa de la Malvarrosa, and by the Compañía Eléctrica Madrileña de Tracción, the last two for city tramways in Madrid. Particulars may be obtained by addressing "Dirección General de Obras Públicas," Madrid, Spain. An electric tramway is to be established between Badajoz and Cuesta de Castilleja, and another is to be built between Azcoita and Zumaga.

The construction of an electric plant for lighting the city of Salamanca, Spain, is to be awarded by contract.

The municipality of Valladolid, Spain, will receive bids to erect an electric plant for lighting the city.

Switzerland.—The city of Lugano, Switzerland, has just voted \$372,000 for establishing an electric plant.

A large electrical central station is to be built at Stanz, on Lake Lucerne, Switzerland.

The municipality of Oberurnen, Switzerland, contemplates the erection of electric works.

MISCELLANEOUS.

Elba.—The Mining and Furnace Company, Elba, intends building a large steel works, to cost about \$1,500,000, on the island of Elba.

Greece.—The Government monopoly of Greece will receive proposals for the erection of a factory at Athens with a capacity to turn out 2,500,000 boxes of matches per month.

The Government monopoly of Greece desires to purchase about 80,000 boxes of petroleum. Application should be made to the ministry of finance at Athens for details.

Morocco.—The French consul at Tangier, Morocco, thinks a department store would do a prosperous business in that city.

Russia.—The Russian railway department has decided to purchase a number of automobiles to facilitate the transport of freight between the different stations at St. Petersburg.

Switzerland.—The firm of A. & M. Weil, Zurich, Switzerland, will receive proposals for the erection of a turbine plant.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *December 6, 1904.*

ELECTRIC SUPPLIES WANTED IN CHINA.

(*From United States Consul Anderson, Hangchau, China.*)

Several of the larger mission schools in Hangchau and vicinity are considering the equipment of their schools with small electric light and power plants in connection with gasoline-engine power. They are doing this both for the sake of the light and for the means such plants would afford for instruction. The president of one of the academies has asked me to obtain catalogues for such plants, and I will be glad to use any sent me, both with him and with others. Fifty-light or sixty-light plants will probably be about the size needed. The equipment of one or two schools with such plants will lead to the equipment of others, as a matter of course, but the chief importance of the matter is in the fact that these small plants will be object lessons for Chinese business men and officials of what can easily be done in the cities in commercial light plants. Several American electric-light people are considering schemes for the establishment of light plants in cities of this province, but so far, among other hindrances, they have lacked the cordial cooperation of Chinese business men. With a few object lessons at hand this backwardness may be overcome. The development of trade in electrical supplies and machinery in this part of China will probably be very rapid when once it is well started, and the field certainly merits the attention of American business men.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *November 7, 1904.*

PROPOSED INCREASE OF JAPANESE CUSTOMS DUTIES.

(From United States Vice-Consul Sharp, Kobe, Japan.)

In transmitting the annexed clipping from the Kobe Journal, an English publication, relative to the proposed increase of the Japanese customs duties, United States Vice-Consul Hunter Sharp, Kobe, reports, November 22, 1904, that before the proposed duties can come into force they must first be laid before the Diet, the next session of which was convoked for November 28, and then, if approved, six months' notice must be given under Article VII of the customs tariff law. This provision of the customs tariff law can not be repealed, as it is inserted by virtue of an agreement made between the German and Japanese Governments, and embodied in a note attached to the German treaty.

PROPOSED INCREASE OF CUSTOMS DUTIES.

(From the Kobe Chronicle of November 20, 1904.)

The Government will lay before the next session of the Diet a series of proposals for increasing the duties on articles in the statutory tariff. We have therefore prepared the following table, with the view of showing the ordinary or normal rate upon such goods, the amount by which the duty has already been increased since the war began, and the proposed further increase, with the total charge then imposed. Of course these proposals require the assent of the Diet, but there can be little doubt that in the main they will be approved.

Present and proposed duties on articles imported into Japan.

Articles, <i>a</i>	Ad valorem rate.			
	Normal.	Already in-creased.	Proposed further increase.	Total.
	Per cent.	Per cent.	Per cent.	Per cent.
Arms and ammunition, such as cannon, muskets, pistols, side arms, projectiles, cartridges, etc.	25	.....	5	30
Balances, measuring scales, and tapes.	10	.....	10	20
Barometers	10	.....	5	15
Crucibles of all kinds	10	.....	10	20
Cutlery, not otherwise provided for	20	.....	5	25
Electric light apparatus or instruments and parts thereof	10	.....	5	15
Fire engines and parts thereof	10	.....	5	15
Implements and tools of farmers and mechanics, and parts thereof	5	.....	5	10
Instruments, musical, and accessories	15	.....	10	25
Instruments, philosophic, chemical, surveying, surgical, and all other scientific, not otherwise provided for	10	.....	5	15
Instruments, photographic, or apparatus, and parts thereof	15	.....	15	30
Phonographs and parts thereof	25	.....	10	35
Spectacles and parts thereof	10	.....	10	20
Sporting guns and accessories	25	.....	10	35
Telephones and parts thereof	10	.....	5	15
Thermometers	10	.....	10	20
Articles enumerated in group II, in the customs tariff, sweetmeats, fresh eggs, and artificial butter excepted	10-25	.....	5	10
Confectionery and sweetmeats:				
<i>a</i> . Confectionery	40	.....	10	50
<i>b</i> . Sugar, and fruits candied or preserved in sirup	25	.....	5	30

^aSpecific duties are levied as follows: Alcohol and tinctures (opium tinctures excepted), 42 + 3 + 3 = 48 sen (23.7 cents) per liter; fermented liquors, excluding wines, vermouth, etc., 27½ + 0 + 3 = 32½ (16 cents) per liter.

Present and proposed duties on articles imported into Japan—Continued.

Articles.	Ad valorem rate.			
	Normal.	Already increased.	Proposed further increase.	Total.
	Per cent.	Per cent.	Per cent.	Per cent.
Eggs, fresh.....	25	5	5	35
Articles enumerated in group III in the customs tariff:				
a. Of silk, wholly or in part, set with gold, silver, or gems.	25-30	20	20	45-50
Of platinum, gold, or silver.....	25-30	20	20	45-50
Of silk, wholly or in part.....	25-30	20	20	45-50
b. All others.....	20		15	35
Articles enumerated in group IV in the customs tariff, excluding alcohol, adulterated alcohol, tinctures (opium tincture excepted), camphor, photographic collodion with iodizer, musk, artificial musk, rosin, soda ash, caustic soda.....	10		5	15
Camphor Borneo, and camphor blumea or ngal.....	10		10	20
Collodion, photographic, with iodizer.....	10		10	20
Musk, natural and artificial.....	15		10	25
Articles enumerated in group V in the customs tariff, excluding cobalt oxide, gold, silver, and platinum liquids, dry indigo, and logwood extract.....	10		5	15
Articles enumerated in group VI in the customs tariff, excluding ordinary window glass, plate glass silvered or unsilvered, and glass broken or powdered.....	20-25		10	30-35
Articles enumerated in group VII in the customs tariff, excluding cotton seeds.....	5		10	15
Articles enumerated in group VIII in the customs tariff, animal bones, and hair (excluding wool, goat's and camel's hair), cow and buffalo hides, ivory, tortoise shell, and shells excepted.....	5-25		5	10-30
Brass:				
Bar, rod, plate, and sheet.....	10		5	15
Pipes and tubes.....	10		5	15
Screws.....	10		5	15
Copper:				
Bar, rod, plate, and sheet.....	10		5	15
Nails.....	10		5	15
Pipes and tubes.....	10		5	15
Wire.....	10		5	15
Copper coins and nickel coins.....	5		5	10
German silver: Plate, sheet, rod, and wire.....	10		5	15
Iron and mild steel: Wire rope (galvanized or otherwise)...	10		5	15
Lead:				
Plate and sheet.....	10		5	15
Pipes and tubes.....	10		5	15
Steel (not mild):				
Wire (paragon, for umbrella ribs).....	10		5	15
Wire rope (galvanized or otherwise).....	10		5	15
Yellow metal and Muntz metal:				
Sheet and plate.....	10		5	15
Bar and rod.....	10		5	15
Nails.....	10		5	15
Pipes and tubes.....	10		5	15
Nails and screws, not otherwise provided for.....	10		5	15
Bag frames.....	15		10	25
Capsules for bottles.....	15		5	20
Door locks, knots, bolts, hinges, etc.....	15		10	25
Foils and powder of gold, silver, or other metal (bronze powder excepted).....	15		10	25
Gold and silver ware, not otherwise provided for.....	35		10	45
Gold and silver plated ware, not otherwise provided for.....	25		10	35
Grates, fenders, stoves, and fittings thereof.....	20		10	30
Safes and cash boxes.....	20		10	30
Umbrella ribs and furnishings thereof.....	15		10	25
All other manufactures of metal or metals, not otherwise provided for, excluding building materials, bridge girders, telegraph posts, and other similar materials.....	20		10	30
Articles enumerated in group X in the customs tariff, excluding cocoanut oil, kerosene, linseed oil, and turpentine.....	10		5	15
Oil, kerosene, petroleum.....	20	20		40
Albums, photographic and postage stamp.....	25		10	35
Books, blank and printed, blank and printed blank forms.....	15		10	25
Ink, writing.....	15		5	20
Paper, Chinese, of all kinds.....	15		5	20
Pencils:				
a. In gold or platinum case.....	30		10	40
b. All other.....	15		5	20
Pen nibs:				
a. Gold.....	30		10	40
b. All other.....	15		5	20
Sealing wax.....	15		5	20
Strawboard.....	15		5	20
All other stationery.....	15		10	25

136 PROPOSED INCREASE OF JAPANESE CUSTOMS DUTIES.

Present and proposed duties on articles imported into Japan—Continued.

Articles.	Ad valorem rate.			
	Normal.	Already increased.	Proposed further increase.	Total.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Sugar (up to No. 14, inclusive, Dutch standard in color).....	5	25	.....	30
Molasses.....	10	20	.....	30
Sirup.....	10	20	.....	30
Woolen felt.....	15	.....	15	30
Silk crape, Chinese.....	20	10	.....	30
Silk, pongee, Chinese (kenchu).....	20	10	.....	30
Silk satins, Chinese.....	20	10	.....	30
Silk satins, figured, Chinese.....	20	10	.....	30
Silk-faced cotton satins.....	20	10	.....	30
Silk tissues and silk and cotton tissues, embroidered.....	25	10	.....	35
All other silk tissues, pure or mixed with other materials, the silk, however, predominating in weight.....	20	10	.....	30
Carpets and carpeting felt.....	20	.....	15	35
Curtains:				
a. Of silk, wholly or in part.....	25	.....	20	45
b. All others.....	20	.....	15	35
Elastic braids and cords.....	15	.....	10	25
Handkerchiefs:				
a. Of cotton, or of linen and cotton (single).....	15	.....	15	30
b. Of silk, or of lace.....	25	.....	20	45
Mosquito nets of all kinds.....	20	.....	15	35
Leather cloths for furniture, etc.....	15	.....	15	30
Oilcloth and linoleum cloth for floor.....	15	.....	15	30
Tablecloths or covers:				
a. Of silk, wholly or in part.....	25	.....	20	45
b. All other.....	20	.....	15	35
Towels of all kinds, single or in piece.....	15	.....	15	30
Twines of cotton, flax, hemp, jute, manila hemp or China grass.....	10	.....	5	15
All other works of tissues:				
a. Of silk, wholly or in part.....	25	.....	20	45
b. All other.....	20	.....	15	35
All prepared tobacco.....	150	100	.....	250
Chinese alcoholic liquors (brewed).....	100	20	10	130
Sake.....	100	20	10	130
Aloe wood.....	10	.....	10	20
Amber:				
a. Unworked.....	10	.....	10	20
b. Worked.....	20	.....	10	30
Animals, excepting cattle, horse, ass, mule, sheep, goat, and domestic fowl.....	10	.....	5	15
Asbestos, in sheets or board.....	10	.....	5	15
Bamboo, unworked.....	5	.....	5	10
Beltings of leather or canvas, and hose of canvas for machinery.....	10	.....	5	15
Billiard tables and accessories.....	30	.....	10	40
Bricks and tiles for building purposes.....	10	.....	5	15
Brushes and brooms of all kinds.....	20	.....	10	30
Canes, sticks, and whips.....	20	.....	10	30
Carriages, bicycles, tricycles, and parts thereof.....	25	.....	10	35
Cars or drays for conveyance of commodities.....	10	.....	5	15
Celluloid, worked.....	20	.....	10	30
Chalk and whiting.....	5	.....	5	10
Charcoal, wood and animal.....	5	.....	5	10
Clay of all kinds.....	5	.....	5	10
Coke.....	15	.....	5	20
Corals, worked or otherwise.....	30	.....	10	40
Cordage and ropes of flax, hemp, jute, Manila hemp, or China grass for rigging or otherwise.....	10	.....	5	15
Diamonds, glaziers'.....	10	.....	5	15
Emery sands.....	5	.....	5	10
Emery cloth and sandpaper.....	5	.....	5	10
Emery wheels and grindstones of all kinds.....	5	.....	5	10
Fireworks of all kinds.....	30	.....	10	40
Flowers and blossoms, artificial.....	25	.....	10	35
Frames for pictures and moldings.....	20	.....	10	30
Funori (Gleopeltis intricata).....	5	.....	5	10
Furniture, new and old, not otherwise provided for.....	20	.....	10	30
Games, all articles of, used in playing tennis, cricket, chess, etc., not otherwise provided for.....	25	.....	10	35
Glue, common.....	5	.....	5	10
Gypsum.....	5	.....	5	10
Ivory, manufactures of, not otherwise provided for.....	20	.....	15	35
Jewelry.....	35	.....	10	45
Labels for bottles, tins, etc.....	15	.....	5	20
Lamps, lanterns, and parts thereof.....	20	.....	10	30
Leather, manufacturers of, not otherwise provided for.....	20	.....	10	30
Malt.....	5	.....	5	10
Matches of all kinds.....	20	.....	10	30

Present and proposed duties on articles imported into Japan—Continued.

Articles.	Ad valorem rate.			
	Normal.	Already in- creased.	Proposed further increase.	Total.
	Per cent.	Per cent.	Per cent.	Per cent.
Matting, China, in rolls of 40 yards	20	.....	5	25
Matting, cocoa	20	.....	5	25
Mats and matting, and all others	20	.....	5	25
Paintings, in oil or watercolor, lithographs, chromolithographs, photographs, calligraphical albums, and all other paintings, pictures, and calligraphy, not otherwise provided for	25	.....	10	35
Pitch, wood tar, and coal tar	5	.....	5	10
Plaster of paris	5	.....	5	10
Playing cards of all kinds	35	.....	10	45
Plumbago or black lead	5	.....	5	10
Pottery, including porcelain and earthenware, not otherwise provided for	20	.....	10	30
Precious stones and pearls	35	.....	10	45
Precious stones and pearls, imitation of	30	.....	10	40
Putty	5	.....	5	10
Rattans, split or otherwise	5	.....	5	10
Saddles, bridles, and harness	25	.....	10	35
Sandalwood	10	.....	10	20
Shoebacking of all kinds	20	.....	5	25
Smokers' articles, excluding those for smoking opium	30	.....	10	40
Soapstone, in lump or powdered	5	.....	5	10
Sparterie, for making hats	10	.....	5	15
Sponges	5	.....	5	50
Stones and slates, not otherwise provided for:				
a. Rough or unworked, for building purposes, etc	5	.....	5	10
b. Worked, for ornamental work on furniture, etc	20	.....	10	30
c. Statues and others, sculptured or engraved	25	.....	10	35
Timber, santalum (shitan)	5	.....	5	10
Toilet or dressing cases	25	.....	10	35
Tortoise shell, manufactures of	25	.....	10	35
Tops of all kinds	25	.....	10	35
Trunks, portmanteaux, and traveling or courier bags	20	.....	10	30
Umbrellas, parasols, and sunshades:				
a. Of silk, wholly or in part	25	.....	10	35
b. All other	20	.....	10	30
Umbrella sticks and handles (except those made of gold or silver)	20	.....	5	25
Wares of santalum or ebony wood	25	.....	10	35
All articles, raw or unmanufactured, not herein enumerated	10	.....	5	15
All articles, manufactured wholly or in part, not herein enumerated	20	.....	10	30
Rice and paddy .....	.....	.....	15	15

COMMERCE AND INDUSTRIES OF THE CONSULAR DISTRICT OF KEHL.

(From United States Consul Brittain, Kehl, Germany.)

CONSULAR DISTRICT OF KEHL.

Kehl is frequently confounded with Kiel, which is an agency under the Hamburg consulate-general; hence persons wishing to obtain information regarding the commercial conditions about Strassburg, which is immediately across the Rhine from Kehl, noting that no consulate is located on that side of the river, frequently write to distant parts of Germany. The consular district of Kehl comprises the territory in the Grand Duchy of Baden south of Karlsruhe and north of Hornberg, and east to the Württemberg boundary; on the west side of the Rhine, all of Lorraine and that part of Alsace north of Rappoltsweiler and west to the French boundary, embracing the cities

of Strassburg, Metz, Markkirch, Zabern, Saarburg, Saargemund, Barr, Haganeau, and Weissenburg. In Baden the leading cities in the consular district are Kehl, Rastatt, Offenbergl, Larr, Buhl, Achern, Pforzheim, and the health resort of Baden-Baden. Large bodies of troops are stationed in the cities of Metz, Strassburg, Weissenburg, and Rastatt.

IMPROVEMENTS IN STRASSBURG.

Strassburg, the leading city in the district, has been making rapid advancement during the past two years, possibly as rapid advancement as any other city in Germany, considering its size. Within the past year there have been erected 11 new public buildings, 89 apartment houses, and 121 residences and other buildings, the latter immediately outside the walls of the city. Work is progressing rapidly on the new sewer system commenced last year, which will cost nearly \$2,000,000, a number of the streets have been repaved, and the electric-car service is being extended along a number of new streets.

The tonnage carried on the Rhine into the Strassburg harbor in 1903 was 78,000 tons greater than in 1902. The principal products entering the harbor are coal, grain, and lumber, large quantities of the two latter coming from the United States.

Strassburg still retains the old French system for raising revenues for the support of the city government known as the octroi. These dues are collected by officials stationed at each of the city gates from articles of food and drink, fuel, building material, perfumery, etc. During the past year these duties have been reduced from \$1.90 to \$1.42 per cubic meter (35.316 cubic feet) on sawed lumber, from \$2.85 to \$2.14 on finished hard lumber, and from \$2.14 to \$1.66 on finished soft lumber. During the year 1903 the octroi duties collected from articles entering the city were as follows: Liquids, including wines, brandies, oils, vinegars, etc., \$408,100; food products, such as meats, fruits (fresh or dried), \$183,429; grain and corn, for human or animal food, and hay, \$26,420; fuel, including wood and coal, \$54,272; building material, stone, brick, cement, gravel, etc., \$142,437; perfumery, \$2,272; total, \$816,931. Octroi duties are collected in no German cities except those of Alsace-Lorraine.

Extensive changes are being made on the railway line passing through Strassburg. The tracks are being removed from the suburb of Neudorf and built farther from the city in order to avoid grade crossings. New switch yards are being built, and about fifteen new overhead bridges. These improvements will cost more than \$5,500,000 and will be finished in about a year.

EXPORTS TO THE UNITED STATES.

The leading exports from the consular district of Kehl to the United States are jewelry, textiles, steel, hides, glassware, pâté de foie gras,

and glue stock. The glassware consists principally of watch crystals, hollow ware, fine tableware, and vases. The total shipments to the United States in the past year amounted to \$1,428,267, which is a decrease, compared with the shipments for the preceding year, of \$1,259,916. This decrease was caused by the falling off in the shipments of hides, jewelry, and steel. The textile industry was also affected. The textile mills in this district and also those in Upper Alsace, near Mülhausen and Colmar, are not manufacturing very large quantities for the United States. The owners of these mills speak of the marked advancement in the textile manufactures in the United States. A similar observation is made by the leading glass and jewelry manufacturers as well. A leading glass manufacturer recently remarked that the end of their trade in the United States was almost in sight. They speak especially of the skill of the American workman and of the practical machinery used.

INDUSTRIES IN THE KEHL CONSULAR DISTRICT.

Manufacturing is carried on in a number of smaller cities and towns in Alsace-Lorraine, and while the prices paid for labor are low compared with American prices, the proprietors say that an American workman will accomplish much more in the same time. The hours here are longer than in the United States, but the workmen spend more time at their meals and take many more holidays than do the American workmen. Again, many of these little factories lack modern machinery.

POTTERY INDUSTRY.

There are a number of potteries in this consular district, the leading one being at Saargemund; others are engaged in the manufacture of specialties, such as the renowned Black Forest ware and the Old Strassburg ware, and very pretty designs are made.

The pottery at Saargemund employs over 3,000 workmen, many of them highly skilled in their trades. The plant was erected in 1790, and has been improved from time to time until it is well worthy of comparison with any of the potteries in the United States. The kilns, 60 in number, have from 2 to 3 decks. The ceilings of the main building are 16 feet high, and the rooms exceedingly well lighted and ventilated. From this plant is shipped to the United States a considerable quantity of ware, such as ironstone china and faïence. The jig-germen are paid about \$1.40 to \$1.55 and the kiln placers about \$1 a day. The transfer work is done largely by girls, who earn from 30 to 50 cents per day. A large amount of the low-priced ware is decorated by hand by experts, who work very rapidly.

The company has provided well for the comfort of the workmen. There is a theater, reading room, and lunch room situated in a large

park. The working people are furnished with soup for 2½ cents, bread for 1½ cents, meat for 2½ cents, and vegetables for 2½ cents per plate. They deal at cooperative stores, where they are given a discount of 2½ per cent from prices elsewhere in the city. This same company is engaged in the manufacture of fine art tiling.

JEWELRY INDUSTRY.

The city of Pforzheim, in Baden, is the leading jewelry manufacturing city in Germany, and its salesmen travel in almost every country in the world. There are 650 or more factories in the city, where over 25,000 working people are employed. Some of the largest factories employ 450 workmen, while many of the smaller employ but from 5 to 10. The jewelry manufactured consists chiefly of chains, brooches, pins, novelties in gold and silver, and gun-metal goods. The shipment of jewelry to the United States fell off considerably in 1904. In 1903 it amounted to about \$150,000.

Some of the Pforzheim manufacturers buy their wire in the United States for the manufacture of rope chain. This American wire is frequently reimported into the United States in the form of rope chain. The Pforzheim manufacturers admit the superiority of American-made seamless wire and tubing, used in the manufacture of jewelry. They say the American manufacturer obtains better results from his workmen, and also speak of the superior adaptability of the American workman. Complaint is made of the numerous holidays taken by the Pforzheim workmen, and of their tardiness in returning to work on Mondays.

The Pforzheim manufacturers have made business a success, however, and are making over \$2,000,000 worth of jewelry a month, and the workmen's monthly pay roll amounts to over \$400,000. Three factors contribute toward the success of the jewelry business: (1) Energetic salesmen in nearly every country; (2) consideration for the tastes of the purchaser; (3) terms of sale and discounts.

GLASSWARE INDUSTRY.

Glassware is another leading article of export from this consular district to the United States. While the duties on glassware are comparatively high, yet on account of the persistent efforts of the German salesmen in the United States a fair trade is still maintained. The Verreries et Christalleries de St. Louis, located at Munnzthal, Lorraine, employ about 2,500 workmen, and manufacture various kinds of crystal and cut glass. The other exporters are Hirsch & Hammel, of Dreibrunden; the Vereinigte Glashütten von Vallerysthal, and Walter Berger & Co., of Goetzenbruck. The latter firms manufacture window glass, watch crystals, and spectacle lenses.

OPENINGS FOR AMERICAN MANUFACTURES.

AMERICAN SHOES.

Some weeks ago a brief article concerning the prospects for better trade in American shoes in Strassburg was published in the Daily Consular Reports. The article was almost immediately translated and published in the Shoe and Leather Journal, of Berlin, with the following communication:

The writer of this article has a first-class shoe store, and there are daily requests made for American shoes; nevertheless, I have not up to the present date offered American shoes for sale. I have, however, American shoes made in Germany. Why should these not satisfy our customers? The style, durability, and making are equal to those of America.

It only requires a little shrewdness on the part of the salesman to convince the public of the equal qualities of the German shoes. I have spent many years in the United States, and am acquainted with the shoe business in America, but in spite of all, first comes Germany and then the United States. Above all, this article illustrates how the American manufacturer is being supported by the American consuls in foreign countries, and favorable conditions exist for the American shoe manufacturer who wishes to export to Germany. These favors are extended by the German Government in the way of low duties on shoes.

If the suggestions in the article which caused the above comment (published in Daily Consular Reports, No. 2068, of September 29, 1904) were acted upon, the sale of American shoes would increase in Alsace-Lorraine. Neatness and durability are the qualities required, and the price should be moderate. With the comparatively low duties on shoes entering Germany, there is no reason why American shoes can not be sold here at a small advance over the prices realized at home. American manufacturers can not deceive the German trade, however, with cheaply made goods; whatever shoes are sent to Germany should be, above all things, durable.

BISCUITS.

Nearly all the leading grocers in Strassburg handle the various brands of English biscuits. The American manufacturers could enter the markets in this part of Germany as easily as their English competitors. The duty on biscuits containing sugar is 60 marks per 100 kilograms (about 6 cents a pound); on biscuits containing no sugar, 7.2 marks per 100 kilograms, or about three-fourths of a cent a pound. Biscuits retail at 25 to 60 cents a pound. Imitation American oyster crackers sell for 20 cents.

SEWING MACHINES.

An American company extensively engaged in the manufacture of sewing machines wrote recently for information concerning the sewing-

machine trade in this part of Germany, and wished to know what the prospects are for extending their business. The letter said they intended doing business by correspondence and sending illustrated circulars. Such methods will never win trade. The German duty on sewing machines ready for use is 3 marks per 100 kilograms (71.4 cents per 220 pounds); on metal frames separate from the machinery the duty is the same, or about one-third of a cent a pound. On the machines separate from the frames the duty is 24 marks per 100 kilograms (\$5.71 per 220 pounds), or about 2.6 cents a pound. These rates will cut but a small figure in the price of a machine, and the trade can be extended if the people are shown the machines and convinced of their merits.

DRIED FRUITS.

Last season there were from 40 to 50 carloads of evaporated American fruits sold in this vicinity, but this season the prospects are not so bright, owing to the large fruit crop in Baden and to the abundance of the French crop. I am informed that French prunes can be purchased 25 per cent lower this season than corresponding California prunes. I was told recently that one consignment of California prunes, en route from the United States, would be mixed with French prunes in Mannheim, and then placed on the market. All kinds of fruit are exceedingly plentiful in this part of Germany; this season the grapes were exceptionally fine, consequently the wine crop will be the best in quality and the largest in quantity for many years past.

EXPORTS DECLARED FOR THE UNITED STATES.

Articles declared at Kehl for export to the United States during the year ended June 30, 1904, and their value.

Articles.	Value.	Articles.	Value.
Ammunition.....	\$609	Hides and skins—Continued.	
Asphalt.....	626	Horse.....	\$9,707
Chemicals and drugs:		Muskat.....	5,770
Berlin blue.....	6,575	Ox.....	14,995
Bronze powder.....	498	Hope.....	1,561
Dyewood extract.....	1,833	Household goods.....	1,215
Prussiate of potash.....	19,339	Infants' embroidered cloaks.....	255
Pyrogallie acid.....	2,513	Jewelry.....	110,456
Spar.....	3,109	Jewelry, rope chains.....	6,185
Flowers:		Leather goods:	
Artificial.....	3,805	Furniture, morocco.....	13,999
Living plants.....	109	Glove leather.....	15,645
Fruits and vegetables, preserved.....	6,545	Liquors:	
Gelatin and glue.....	6,705	Brandy.....	2,369
Goose liver pastry.....	31,392	Champagne.....	233
Glassware:		Wine.....	932
Beads.....	1,094	Machinery and tools.....	2,134
Hollow glass.....	60,182	Manna, artificial.....	2,456
Spectacle lenses.....	12,378	Mexican fiber.....	2,302
Watch crystals.....	92,745	Objects of art.....	1,185
Window and lamp glass.....	16,267	Paper ware:	
Gun-metal goods.....	23,443	Books and cards.....	22,481
Hides and skins:		Calendars.....	1,110
Calf.....	315,142	Papier maché.....	19,962
Colt.....	29,246	Pasteboard boxes.....	6,789
Goat.....	20,749	Pictures.....	1,778
Hare.....	170,230	Plush, half silk.....	15,197

Articles declared at Kehl for export to the United States—Continued.

Articles.	Value.	Articles.	Value.
Pottery:		Steel manufactures—Continued.	
Earthenware	\$21,258	Sword blades	\$285
Faience	15,672	T-rails	92,498
Porcelain	830	Tubing, flexible (brass)	765
Tiles	180	Teeth, artificial	612
Scientific instruments	1,062	Textile goods:	
Starch	548	Cotton	536
Snuff	518	Woolen	25,714
Stationery novelties	2,590	Woolen, mixed	41,133
Steel:		Tinware	11,574
Angles	12,039	Waste silk packing	1,700
Bars	13,948	Watches, clocks, and parts of	8,429
Billets	25,754	Wood pulp, unbleached	4,369
Blooms	20,652	All other articles	234
Joists and beams	4,724		
Slabs	34,368	Total	1,428,267
Steel manufactures:		Total previous year	2,688,183
Spring and tool steel	1,507	Decrease	1,259,916
Steel hose	911		

JOSEPH I. BRITAIN, *Consul.*KEHL, GERMANY, *November 15, 1904.*

ARGENTINA'S FOREIGN TRADE IN 1904.

(From United States Minister Beaupré, Buenos Aires, Argentina.)

I inclose herewith the statement^a of the Bureau of Statistics of this Government concerning the foreign trade of Argentina in the first nine months of this year. The following are some of the points of interest; the figures are given in Argentine gold (the dollar being equivalent to \$0.965 United States):

The value of the exports during the nine months was \$203,192,919, an increase of \$27,111,385, or about 15 per cent, over the value of the exports during the corresponding nine months of 1903. The value of the imports was \$138,762,263, an increase over the value of the imports for the same months of 1903 of \$38,400,146, or 38 per cent. The total foreign trade is 24 per cent larger than that of the same period of 1903, while the excess of exports over imports is \$64,430,656, or \$11,288,761 less than in 1903. Of the exports \$57,372,074, and of the imports \$110,609,356, were subject to duty.

Great Britain heads the list in both exports and imports, having received from this country goods to the amount of \$27,026,447, and having sent to this country goods to the amount of \$48,955,731, leaving a balance against Argentina of \$21,929,284. France and Germany are close competitors for second place in bulk of trade; the exports to these countries amount, respectively, to \$22,590,558 and \$23,659,214, and the imports from them to \$18,646,758 and \$13,418,502, there being in both cases a considerable balance in favor of Argentina. The

^aOn file in the Bureau of Statistics.

United States holds the fourth place in bulk of trade, exports to the United States amounting to \$7,216,808 and imports from the United States to \$16,325,334, leaving a balance of trade in favor of the United States of \$9,108,526. The other countries follow in the order given in my report of August 10 last for the first six months of this year.^a

The exports to 6 of the 15 countries given have increased, those to the other 9 having fallen off, while the imports from all but 1 (Bolivia) of the 15 countries have increased. The increase of exports is greatest in case of Germany, being \$2,486,528. Brazil comes next, having received from this country \$1,530,192 more than in 1903. The United States received \$791,484 more than during the same months of last year. Exports to Chile, Paraguay, and Uruguay have increased.

Of the increase in imports the largest share is from England, from which this country has received \$13,589,240 worth of merchandise more than last year. Germany is second, with an increase of \$5,216,261, and the United States third, with an increase of \$5,074,934. But, while the United States stands third in actual increase, it stands first in percentage of increase, our export trade to this country having increased 45 per cent during these nine months, while those of Great Britain and Germany have increased, respectively, 40 and 38 per cent. This and the balance of trade of \$9,108,526 (shown above) in our favor, being some 40 per cent of our whole trade with this country, are the two gratifying features of this report.

It must, however, be remembered that the value of the imports is an assessed value, in accordance with the tariff of values, and does not represent the real value of the articles imported. Another characteristic of these reports is the item of exports "for orders," not less than \$78,327,770 worth of goods having thus left the country in these nine months without known destination. It is not likely that much of this goes to the United States. The larger part probably reaches England, which would alter somewhat the balance of its trade with this country.

A. M. BEAUPRÉ, *Minister.*

BUENOS AIRES, ARGENTINA, *November 10, 1904.*

BRITISH COLUMBIA-MEXICO STEAMSHIP SERVICE.

(From United States Consul Dudley, Vancouver, British Columbia.)

A very largely attended meeting of the Vancouver Board of Trade was held December 11, at which many interesting subjects were discussed. After disposing of a resolution regarding forest fires the board took up the question of the Mexican Steamship Line. Mr. Harvey, agent of Messrs. Weir & Co., who have arranged to install a monthly line of steamers from this port to the ports on the west coast

^aPublished in Daily Consular Reports, No. 2078, October 11, 1904.

of Mexico, was present, and said: "The steamships to be put on the route will be of 5,000 tons, electric-lighted, with a speed above that required by the Government. The service will be monthly. I have been somewhat disappointed in finding that no trade exists. I had expected that some trade was carried on, the development of which could be proceeded with. I suggest that an accredited representative be sent to Mexico in the interest of the industries of British Columbia. I am going down there early in the year, and your representative might accompany me." Mr. Harvey quoted figures showing the trade between Canada, the United States, and Mexico. The trade of Canada with Mexico in 1903 amounted to \$262,000, while the United States did business with Mexico, exports and imports combined, to the amount of \$83,000,000.

Mr. Moody, who has lately removed from Texas to this city, said: "I have had business connections with the western coast of Mexico for the last twenty years. Only two short lines now extend across Mexico, but a road is being constructed by Mr. Stillwell south from Kansas City, which will open up one of the richest mineral districts in the world. In this country there will be an enormous demand for coal and coke, and lumber. When other lines are completed this demand will be increased. I do not see why British Columbia can not supply these articles. The coal at present is imported from West Virginia, and I feel sure a good business can be worked up if favorable rates can be secured. The lumber in this province is the finest in the world and the opportunities excellent. It is for these reasons that I and my associates have come here from Texas to engage in business."

The president suggested that Mr. Harvey need not be so pessimistic, and added: "I can remember when there was a boat to Victoria three times a week, and only once a week to Seattle, and no connection with China. There is hope that the trade with Mexico will grow."

Mr. Buscombe said that he favored appointing a representative. "If trade is to be done we should find out what is wanted."

Mr. Murray expressed the opinion that it is not necessary to send a special representative to Mexico at present. "I have faith in the enterprise of our own dealers to find the market if there is any."

Mr. E. E. Evans said: "I am of opinion that there are few opportunities for trade with Mexico. If our coke is of superior quality a market can be found for it in San Francisco, without going to Mexico. My friend has also investigated the demand for fish, and found that there was little demand. The demand for canned salmon is small, and only an inferior brand is wanted. It is very easy to get copies of the manifests of vessels doing business with Mexico out of San Francisco to see what articles are required. It is impossible to compete in commodities shipped from San Francisco. As to coal, my firm represents the Western Fuel Company, and is able to look after its own business."

Mr. Alexander said: "I can not give a hopeful view of the markets in Mexico. Investigation has been made as to the demand for lumber, and it has been found that only 8,000,000 or 9,000,000 feet are imported, and mostly by a French company mining at Santa Rosalia, in Lower California. There is nothing on the coast, and inland transportation is by means of mules. All the coal and coke is brought from Europe. The only return cargoes are of ore and such things as shark's fins."

"How do we know what they want unless somebody goes down to find out," asked Mr. Buscombe.

In response to a question Mr. Harvey said: "The freight on lumber from Vancouver to Mexico on these steamers will be about \$10."

Mr. Beecher said that the rate from Puget Sound is only \$7 or \$8, and added: "The Americans have intimate trade connections with Mexico, as many of the people doing business in that country are Americans." Mr. Beecher referred to the trip made by Mr. E. E. Sheppard on behalf of the Dominion government, which he said resulted in nothing, and continued: "Mr. Sheppard came to my company, saying that business could be done with Peru and China, when our company had been selling lumber there for years past. It is unfortunate that more adequate information was not obtained before this matter was taken up. I am sorry to say that the last place to which a steamship line should be given a bonus is Mexico. In the shipment of coke, coal, and lumber, British Columbia dealers are handicapped. If the Dominion government wishes to subsidize a steamship line the vessels should run to North China. No matter what the result of the present war, the opening of Manchuria will reveal one of the richest countries in the world. Trade connections already exist, and there will be exchange both ways from the first."

On the evening following (December 12) the meeting of the board of trade which is reported in the foregoing, a meeting of the Liberal Association, the party organization which supports the present Dominion government, was held, at which the following resolution was unanimously adopted:

Resolved, That the Parliament of Canada having granted a subsidy and established a line of steamships between this port and Mexico, the action of the board of trade of Vancouver in connection with this question, as voiced by a majority of those present at their meeting on Tuesday, the 6th instant, is detrimental to the best interests of Vancouver, and that the sentiments expressed at said meeting did not represent the feeling of the people of Vancouver.

L. EDWIN DUDLEY, *Consul*.

VANCOUVER, BRITISH COLUMBIA, *December 13, 1904.*

PROPOSED DUTY ON AMERICAN LUMBER IN CANADA. 147

Trade of United States with Mexico.^a

Year ending June 30—	Exports to Mexico.			Imports from Mexico.
	Domestic.	Foreign.	Total.	
	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>
1865	13,819,972	2,530,867	16,350,839	6,220,874
1866	3,701,599	371,619	4,073,218	1,726,092
1867	4,823,614	572,182	5,395,796	1,071,936
1868	5,048,420	1,392,919	6,441,339	1,590,667
1869	3,835,699	1,047,408	4,883,107	2,336,164
1870	4,544,745	1,314,955	5,859,700	2,715,665
1871	5,044,033	2,568,080	7,612,113	3,209,688
1872	3,420,658	2,122,931	5,543,589	4,002,920
1873	3,941,019	2,323,882	6,264,901	4,276,165
1874	4,016,148	1,930,691	5,946,839	4,346,364
1875	3,872,004	1,865,278	5,737,282	5,174,594
1876	4,700,978	1,499,594	6,200,572	5,150,572
1877	4,503,802	1,389,692	5,893,494	5,204,264
1878	5,811,429	1,649,275	7,460,704	5,251,502
1879	5,400,380	1,351,864	6,752,244	5,493,221
1880	6,065,974	1,800,519	7,866,493	7,209,598
1881	9,198,077	1,073,161	11,171,238	8,317,802
1882	13,324,505	2,158,077	15,482,582	8,461,899
1883	14,370,992	2,216,628	16,587,620	8,177,123
1884	11,089,603	1,614,689	12,704,292	9,016,486
1885	7,370,599	970,185	8,340,784	9,267,021
1886	6,856,077	881,546	7,737,623	10,687,972
1887	7,267,129	692,428	7,959,557	14,719,840
1888	9,242,188	655,584	9,897,772	17,329,889
1889	10,886,288	600,608	11,486,896	21,253,601
1890	12,686,108	619,179	13,305,287	22,690,915
1891	14,199,080	770,540	14,969,620	27,295,992
1892	13,696,531	597,468	14,293,999	28,107,525
1893	18,891,714	676,920	19,568,634	33,555,099
1894	12,441,805	400,344	12,842,149	28,727,006
1895	14,582,484	423,422	15,005,906	15,635,788
1896	18,686,797	763,459	19,450,256	17,456,177
1897	22,726,596	694,468	23,421,064	18,511,572
1898	20,405,952	800,987	21,206,939	19,004,863
1899	24,283,528	1,199,547	25,483,075	22,995,722
1900	33,703,996	1,270,965	34,974,961	28,646,053
1901	35,857,837	617,513	36,475,350	28,851,635
1902	39,072,488	801,118	39,873,606	40,382,596
1903	41,068,491	1,888,615	42,957,106	41,313,711
1904			45,900,748	44,627,155

^a From data of Bureau of Statistics, Department of Commerce and Labor.

PROPOSED DUTY ON AMERICAN LUMBER IN CANADA.

(From United States Consul Dudley, Vancouver, British Columbia.)

A very interesting meeting was held in the rooms of the board of trade of this city yesterday, which was attended by the several members of the Canadian Parliament, including one of the senators from British Columbia. The meeting was held for the purpose of permitting the lumbermen of this vicinity to present their case to their representatives in the Canadian Parliament. The chairman stated that the object of the meeting was to urge the government at Ottawa to aid the lumbermen of this province by a customs tariff of \$2 a thousand feet on rough lumber, and said that this would only offset that of the United States, and allow the Canadians to have the limited market of Canada to themselves.

Mr. J. G. Scott, manager of the Pacific Coast Lumber Company, said: "This matter has been gone over so often that there is little new to say about it. There has been no change in the condition of the

industry since this matter was last presented to the government, except that the depression has become more apparent." He referred briefly to the employment of black and convict labor in the mills of the Southern States, which shipped large quantities of lumber north. He further said: "In 1903 the lumber imported into Canada was 60,000,000 feet, while this year it will be about 140,000,000 feet, and unless protection can be afforded the amount will be increased still further."

Mr. C. M. Beecher, assistant general manager of the British Columbia Mills, Timber, and Trading Company, said: "The gravity of the situation is attested by this very large meeting, which includes representatives of all classes of business. It is impossible for the lumber and shingle manufacturers of British Columbia to run their plants profitably when shipments are being forced from the United States on the only market that British Columbia has. It is perhaps right that the duty was removed on pitch pine at the time it was, but that necessity has now been done away with, for, since the completion of the Canadian Pacific Railway, it is possible to get any quantity of Douglas fir for the same work in the east, and the fir is a much better wood." He further said: "It is very difficult to compete with the manufacturers in the United States, who have a market of 80,000,000 people, besides Hawaii, the Philippines, Alaska, and Canada, while Canadian manufacturers have to share their only market in Canada with Americans. A mill that costs between \$250,000 and \$300,000 in Canada would cost in the United States between \$200,000 and \$225,000. The extra cost is caused by the duty on machinery, and if the plant is bought in Canada the price is the same, for the duty is added. Supplies are from 15 to 25 per cent higher because of the duty given the product of the farmers in the Territories. The lumberman's greatest difficulty is to get rid of his common lumber in a market so restricted. Many mills find themselves in financial difficulties on account of relying upon rough lumber as an asset, while there is no market for it, and rough lumber forms from 75 to 80 per cent of the whole product. If the Canadian market were held for the Canadians there would be little trouble in disposing of this part of the product. The opposition to the duty came largely from the farmers, and while there was reason for free lumber years ago, it is different now. There are mills all over the country from Rat Portage to the coast, the capacity of which is much beyond the possible home consumption. By a natural law, competition will keep the prices down."

In reply to a question, Mr. Beecher said that lumber is delivered in Winnipeg for \$18, of which \$11 or \$12 represent freight charges. Mr. Beecher was then asked if he sold only to the combine, and replied, "There is no combine. It is legitimate in all avenues of trade to deal with the consumer through retailers, without whom it would be impos-

sible to carry on business. The farmer is the man who is being obliged by the retailers and manufacturers. When he builds a house he gives a note for the lumber; the first thing he does when he disposes of his crop is to buy a contiguous section or half section of land, and if the crops are bad the millmen have to foot the bill."

Mr. Ralph Smith, M. P., said that lumber was \$30 per thousand in Winnipeg. Mr. Beecher replied that this was absolutely false, for there was keen competition, if nothing else, to keep the prices reasonable.

Senator Templeman asked if the millmen could not prevent the retailer from selling at exorbitant profits, sometimes as high as 30 per cent. An explanation was made that the manufacturers had no authority with the retailers.

Senator Templeman suggested that the manufacturers sell to only one man in one place. Mr. Beecher replied, "Not at all," and went on to tell how the Western Retail Dealers' Association had been formed, and how it had been the cause of the discussion relative to the lumber combine.

Senator Templeman asked, "If the duty were off would you be in favor of reciprocity?" "Unquestionably," was Mr. Beecher's reply. Another gentleman present asked, "How much better would you be off?" Mr. Beecher said that the market then would be considerably larger, giving ingress particularly into California. If the two countries were placed on an equal footing not a word would be heard from the British Columbia lumbermen. One of the features of Puget Sound trade is that when a vessel is loading export lumber there is another ship alongside taking the other lumber, and thus the whole product is disposed of.

Mr. Scott, manager of the Pacific Coast Lumber Company, was asked by Senator Templeman what he would think if he were in the retail clothing business and a wholesaler from another city came along and took orders for suits of clothes. Mr. Scott replied: "Nearly every millman receives letters from farmers who have clubbed together to get a carload of lumber, but these applicants are referred to the retail dealers in that section; if there are no dealers, then business may be done direct." He stated that the profit was not more than 20 per cent, and out of this the retailer had to pay freight, cartage, storage, etc. Mr. Scott said he was glad that the question of reciprocity had come up, and that he would be willing to take his chances if there were reciprocity in all the manufactured articles necessary to produce lumber.

Mr. Scott said, "I am about to close my mill"—not as a threat, but as the result of present conditions. It would have been done several days before, but a few things remained to be done. This alone will mean the cessation of a large amount of money in circulation.

Mr. T. F. Patterson, of the Canadian Pacific Lumber Company, Port Moody, said: "I can not see the reason of building up the Northwest at the expense of British Columbia. If the farmers there are heavily taxed on some of the things they use, we are heavily taxed on all. It is a difficult thing for a government to frame a tariff suitable for all parts of the country, and there should be concessions by the people in each part in favor of the people in the other. If it is necessary that the farmer should have free lumber, why is not the duty taken off for his benefit on other commodities which he uses? There is a 20 per cent duty on sleighs, 30 per cent on harness and saddles, 35 per cent on clothing, 25 per cent on agricultural implements, 25 per cent on stoves. All of these things have to be replaced every two or three years, yet the house which is built of free lumber is replaced only every fifteen years." Mr. Patterson further said that it is the heavy freight charges that make the charges on lumber in the Northwest territories so high.

Mr. L. A. Lewis, of the Brunette Mills, New Westminster, said: "It is my firm opinion that the consumer does not get the benefit of the tariff, as the price is regulated by the price of British Columbia lumber. If the importations of lumber were stopped it would mean the employment of one thousand or more men and the circulation of about one million dollars in this province." Mr. Lewis further said that he would venture the assertion that each mill carried Northwest farmers to the extent of from \$30,000 to \$40,000.

Mr. Campbell Sweeny, manager of the Bank of Montreal, supported the lumbermen in their petition, and said: "I am convinced it is only common justice that this industry should be protected. If the members of Parliament were made to feel as the most of the people feel in respect of this matter they would be a unit in insisting that British Columbia should have justice from the government at Ottawa."

Mr. William Murray, manager of the Canadian Bank of Commerce, expressed concurrence in the views of Mr. Sweeny.

Mr. W. C. Wells, a member of the local parliament, said: "If I thought for one moment that the imposition of a duty upon lumber would add a burden to the farmer, then I should say no more. I do not think it would. If the imports continue the British Columbia mills will have to shut down, and the result will be a shortage of supply in a short time, and very high prices. If the manufacturers had the Canadian market for themselves a uniform trade could be depended upon, which would result in benefit to the consumer." Mr. Wells thought it unreasonable that the government should consider one part of the country at the expense of the other.

Mr. R. H. Alexander, president of the British Columbia Mills, Timber and Trading Company, spoke not only as a lumberman, but also as chairman of the British Columbia branch of the Canadian Manufacturers' Association. He said: "All manufacturers are bound

together, and no one industry can be dissociated from the others." Mr. Alexander further explained who would be the sufferers if the mills should shut down, and said that out of every \$100 received for lumber \$15 went to the mill and \$85 was distributed as wages.

Mr. Alexander was asked if he was in favor of reciprocity, and said "I am not. As far as my own company is concerned it would suit us most decidedly. Mills on tide water would be benefited, but the mills in the interior might not be." Mr. Alexander went on to explain how contractors for the Canadian government work used very large quantities of southern pitch pine when the government might insist that British Columbia fir be used. The railway companies, too, which received large subsidies from the people, brought in the big timbers, which could easily be supplied from this province.

There were a number of other speakers, whose remarks were similar to those quoted, and at the close of the meeting Senator Templeman, in thanking those present for the information they had given, said: "I can not be expected to come out either for or against the duty, as my position in the cabinet does not allow of such definite action; still, I will represent the views of the people to the Dominion cabinet. I suggest that the lumbermen also send a delegation to Ottawa. While I am not theoretically nor practically a tariff man, still I can not fail to recognize conditions, and I will stand for the best for the province, whatever that may be."

Since the foregoing was written six of the largest mills in Vancouver and the near vicinity have closed, and many men are thereby thrown out of employment.

L. EDWIN DUDLEY, *Consul*.

VANCOUVER, BRITISH COLUMBIA, *December 8, 1904.*

PERMISSION TO ERECT HIGH STEEL-FRAMED BUILDINGS IN BERLIN REFUSED.

(*From United States Consul-General Mason, Berlin, Germany.*)

Some weeks ago the Central Association of German Industrials addressed to the ministry of the interior a respectful and exceedingly well written memorial urging that the present building laws, which do not permit the construction in Berlin of dwellings or business buildings with a greater height from pavement to cornice than 22 meters (72.18 feet), be so far relaxed as to allow steel-framed buildings of higher altitude to be erected, if not generally, at least in exceptional cases when good reason for such variation could be adduced.

The reasons for the proposed innovation, as set forth in the memorial, were that the rapid growth of Berlin in population and business interests required more room to be provided, particularly in the central districts, without increase of cost to tenants; that the restriction to a

limit of four stories compelled excessive lateral expansion that had already spread the city over an immense area, and thus lengthened the distance between the homes of many people and their work; and that experience in other countries had shown high steel-framed buildings, when properly constructed, to be safe, comfortable, uniformly better lighted and ventilated, and therefore more sanitary for dwellers and working people, than those of ordinary height. Furthermore, it was urged that such a relaxation of building regulations would bring into use great quantities of structural steel and iron which are now largely produced in Germany, and for which an increased market would be highly appreciated by the steel and iron masters, who are making such a brave fight for a share in the world's trade.

Thus plausibly stated, the appeal of the industrial association was submitted during the summer vacation to the ministers of commerce, the interior, and public works, who, after due consideration, made a joint reply, dated September 20, in which the petition was flatly refused, for reasons which were stated at length, but may be condensed as follows:

(1) The ministries are opposed to any system of building which will lead to an increase in the number of "renting barracks" (Miethscaserne), large buildings divided into a great number of small apartments or tenements, which are leased to families of working people, with the result that a great number of persons of both sexes and all ages are huddled together under conditions which are necessarily subversive of normal family life and prejudicial to public morals.

(2) Buildings so high as to be beyond the level of the present water supply could not be made clean and sanitary.

(3) Any important increase in height beyond the present limit would put the upper stories of the buildings beyond the protection of the fire department, as at present equipped and organized. Whatever might be the material interests involved, the ministries held themselves bound to consider and protect not only the architectural unity and beauty of the city but the health and the moral and physical safety of the people, all of which would, in their opinion, be compromised by the proposed innovation.

With this result the authors of the petition are by no means satisfied, and have replied that they had not proposed to carry buildings in Berlin to the excessive heights which are common in the United States, and that had the desired permission been granted, it would have been provided by careful and competent engineering that all the requirements of fire protection, water supply, and every sanitary necessity should be carefully and completely met. Moreover, in regard to resistance to conflagration, at Baltimore high steel-framed buildings, which offer least food for a fire, fully vindicated their superior safety and were left standing like monuments amid the wide waste of the ruins of four and five story blocks built of stone and brick in the ordinary way.

Thus the discussion stands at present, and it does not appear likely that the ministries, fortified as they are by considerations of municipal beauty and public health and safety, will recede from their present position. It is difficult to persuade German conservatism, in so important a matter as the architectural construction of cities, with arguments drawn from experience in a country which like our own has paid during the past twenty-five years an average annual tribute of \$125,000,000 to the scourge of fire, and which for the losses of the current year 1904 must pay nearly or quite double that sum. However little of our annual holocaust the "skyscraper" may be responsible for, the fact that it is a distinctively American type of construction will not recommend it to European municipalities.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *November 30, 1904.*

FOREIGN TRADE OF TUNIS.

(*From United States Consul Groat, Malta.*)

Judging from the statistics of commerce for 1903, the regency has had a prosperous year. Not only have trade and population increased in the past ten years, but they are still increasing, and it is safe to say that within a few years Tunis will be a very important port. Figures for the past nine years show that from 1894 to 1903, inclusive, the trade, both imports and exports, has doubled, until it has now reached a total value of \$31,002,304.

IMPORTS AND EXPORTS.

The value of the imports in 1903 was \$16,722,575, and that of the exports \$14,279,729. The imports exceeded by \$2,128,138 those of the preceding year, and in exports there was a similar excess of \$5,293,943. The following tables show the values of goods imported into and exported from the regency in 1894 to 1903, and also the principal countries interested in 1903:

Value of imports and exports of Tunis, by countries, in 1903.

Countries.	Imports.	Exports.	Countries.	Imports.	Exports.
France	\$9,225,429	\$8,363,862	Sweden	\$110,498	\$1,400
Great Britain	1,836,214	1,394,429	Spain	79,952	57,505
Russia	1,529,259	4,892	Greece	71,380	45,865
Italy	1,094,101	1,260,931	Holland	67,222	118,456
Algeria	796,939	1,444,194	China	64,252	.....
Belgium	363,932	459,123	British India	51,806	.....
Turkey	252,796	8,538	Norway	39,346	8,359
Austria	252,065	40,938	Morocco	27,854	2,191
Tripoli	221,607	131,730	Dutch West Indies	21,164	18,306
Germany	201,644	212,922	Other countries	157,412	78,221
United States	167,761	27,356			
Brazil	156,616	353			
Switzerland	133,323	158	Total	16,722,572	14,279,729

Value of imports and exports of Tunis, 1894 to 1903.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
1894.....	\$8,384,543	\$7,386,553	1899.....	\$11,155,648	\$9,886,692
1895.....	8,817,189	8,249,377	1900.....	12,802,848	8,512,038
1896.....	9,288,909	6,901,506	1901.....	12,836,513	7,825,509
1897.....	10,764,134	7,346,174	1902.....	14,594,438	8,985,786
1898.....	10,704,230	8,839,367	1903.....	16,722,575	14,279,729

In 1903 France had about 55 per cent of the imports and about 58 per cent of the exports, and England nearly 11 per cent of the imports and somewhat over 9 per cent of the exports.

The principal exports are horses, mules, cattle, sheep, cheese, butter, hay, feather ornaments, wax, fish, coral, sponges, cereals, oranges, lemons, raisins, dates, olive oil, wines, phosphates, lead, zinc, soaps, pottery, glass, cotton and woolen cloth, vegetable dyes, and paper.

The principal contributions from England during the year were optical instruments, hats, felt for various purposes, rubber goods, bicycles, basket work, pianos, furniture, firearms for sporting purposes, nickel-plated goods, cutlery, agricultural implements, flour, and, in short, at least samples of about everything made in that country. Russia's contribution consisted principally of various cereals. Italy sent mostly fruits, vegetables, and various lines of manufactured goods. Germany was represented by about the same lines as England. The variety in the list of goods landed for local consumption is surprisingly great, and almost, if not quite, equal to that to be found in any small European city.

AMERICAN TRADE WITH TUNIS.

The goods contributed by the United States consisted of hams, lard, bacon, pork, tinned goods, margarine, oils, medicinal roots, petroleum, agricultural implements, sewing machines, paints, furniture, and many other lines of goods. For all of these there is a possible increased demand, should the market receive that attention which it seems to deserve at the hands of our merchants. Of the total amount of goods imported last year only \$167,761 worth came from the United States, and these came principally through European houses, although from time to time our goods have reached Tunis by way of transshipping ports. The United States has a very small part of the trade of Tunis, compared with what it might have had if more interest had been displayed in this market. England, Russia, Italy, and Germany are well to the fore. France and its possessions have the lead, but there is a reason for this in the preferential tariffs. There seems to be no good reason why the United States should not to-day occupy a much higher place than the eleventh on the list. England, Russia, Italy, and Germany have been constantly exploiting this market, and the results are to be seen in the foregoing table. On the other hand,

American houses have evidently thought it not worth while to pay much attention to Tunis. This policy should at once be changed, and every exertion made to regain ground that has slipped away from us. There certainly is a good field in Tunis to-day, but long and hard work is necessary to compete successfully with those nations which, alive to the importance of the market, arrived early and gained a footing.

One obstacle in the way of increased trade with the United States is lack of direct communication, which other nations possess. I have every reason to believe that if our merchants will only give this market their attention, and thus create increased demand for our goods, the problem of direct communication can be easily solved by the willingness of the steamship line which for several years past has maintained direct communication with Malta and Adriatic ports. The vessels of this line pass Tunis regularly on their way to the above ports, and were sufficient business presented the line would probably be only too glad to make Tunis a port of regular call. Already this line has frequently transshipped goods at Malta for Tunis, but transshipment can not compare with direct communication in facilitating trade.

CITY AND POPULATION OF TUNIS.

To-day Tunis may be regarded as being divided into two parts, the old and the modern, but both may be said to have improved. The old or Arabic and Jewish portion has progressed slowly but perceptibly toward more up-to-date methods, while the modern or European portion has become as progressive in methods of commerce and living as could be desired. Five years ago the population of the city of Tunis approximated 177,500 persons, made up as follows: Arabs and Mahometans, 100,000; Jews, 50,000; French, 8,500; Italians, 12,500; Maltese, 5,000; Greek, 500; Levantines, Syrians, and others, 1,000. The increase of population during the past five years is estimated at 10,000, and the city is still growing rapidly. The rural population of the neighborhood of Tunis is estimated at 20,000 persons. This population both buys and sells in the markets of the capital city.

The growing importance of Tunis as a trade center of northern Africa may be better understood when it is explained that local railways are constantly extending farther and farther into the country in various directions, making the city a great point for the reception and dispatch of commodities. The modern part of the city is filled with the same sort of large and modern commercial buildings that one would expect to find in any large French city. Banking facilities are ample. In addition to the permanent population, during the winter months Tunis is filled with visitors from all parts of the world.

Although many languages are spoken at Tunis, French is universally understood and mainly spoken. For this reason, business circu-

lars and price lists should be in that language, but better than circulars would be the personal visit of a representative. The latter remark would apply to most of the ports of the Mediterranean.

PORT OF TUNIS.

Owing to increasing trade there has been a demand recently for improved harbor facilities. This the local government has met by contracting for the dredging of the canal leading from the Bay of Tunis direct to the city. At present only vessels drawing about 20 feet can pass through the canal, while the mooring basin, or harbor, is but 4 fathoms in depth. This condition of affairs has obliged vessels drawing more than 20 feet to anchor in the bay off Goletta, the ancient port of Tunis. This anchorage is at times very dangerous, owing to its being open to the sea. The works now in progress, when completed, will admit almost any steamer through the canal, and will provide ample accommodation in the way of mooring in the basin, besides securing protection from rough weather.

JOHN H. GROUT, *Consul*.

MALTA, *November 29, 1904.*

AUTOMOBILES IN SPAIN.

(*From United States Consul-General Ridgely, Barcelona, Spain.*)

The sale of automobiles in Spain is practically confined to the best-known French makes. The use of these vehicles is steadily increasing, although, owing to the bad state of the roads, touring offers few attractions.

A company has recently been formed for making automobiles in this city, and the first cars that have been turned out are said to compare very favorably with those imported from France. The capital of the new company is only 500,000 pesetas (\$72,000), but those interested in the concern are able to largely increase it should it be found necessary to do so. All the machinery and tools have been imported from the United States and England. Twenty-six cars are now being constructed, and arrangements have been made for sending two 20-horsepower cars to the Paris Salon de l'Automobile next month. The first car that was delivered was sold to Buenos Ayres, and the buyer has engaged to take fourteen more cars.

The following are the prices at which these cars can be purchased, the prices having reference to the chassis, meaning the motor and running-gear without the carrosserie: 14-horsepower, \$1,930; 20-horsepower, \$2,430; 30-horsepower, \$3,285 to \$3,572.

The company is also building a 20-horsepower motor for a launch, it being proposed to pay considerable attention to building motor boats.

It will thus be seen that foreign-built automobiles will now have formidable competition in this country, and it is more than probable that influence will be brought to bear on the Government to obtain an increase in the duty, which is now 312.50 pesetas (\$45) for cars of four seats, if imported from a most-favored nation, or 406.25 pesetas (\$58) if from a country having no commercial treaty with Spain.

All automobiles here use benzine, which is sold at 10 to 12 cents a liter, according to the quality.

I have spoken to Mr. José Abadal, who is the principal dealer in automobiles here, as to the prospects of importing American cars. He tells me that he recently bought a small 8-horsepower Oldsmobile, but the shape of American cars is not liked here, nor the system of having the motor placed at the back instead of in the front of the car. Further, he says that the cars are too light for the rough roads in this country. For town use by medical men it is thought that the light American automobiles will be found especially suitable, and Mr. Abadal will be glad to correspond with any American firms that wish to sell their cars in this market.

Barcelona, with its suburbs, is the largest and richest city in Spain, and the most progressive, as well as the largest, on the Mediterranean, Naples not excepted. There are many wealthy people here, who have fine equipages, and who would like nothing better than to own automobiles, if the roads were better, but, unfortunately, in this part of Spain the public highways are very badly maintained. But for this, the automobile industry would develop here very rapidly. In northern and northwestern Spain, however, the roads are much better, and there is no reason why Madrid should not be an important center of this commerce.

At present, in the city of Barcelona, with a population of about 750,000 in city and suburbs, there are only some 200 automobiles in use, and these, as I have above stated, are almost exclusively of French make. I am told that some of the wealthy residents of this city, who own touring cars, keep them in France, just over the Spanish frontier, at a distance of 135 miles by rail from Barcelona, where they go occasionally to use them over the splendid roads of their northern neighbor.

BENJ. H. RIDGELY, *Consul-General*.

BARCELONA, SPAIN, *November 26, 1904.*

AUTOMOBILES IN CALCUTTA, INDIA.

(*From United States Consul-General Patterson, Calcutta, British India.*)

I am receiving so many inquiries from the manufacturers of motor cars (automobiles) in the United States, relative to their prospective sale here, that I beg to say that there is a large and increasing demand

for them here, and almost every description of motor car is seen on the streets, especially the cheaper and medium-cost types. They come from Germany, France, England, Belgium, and the United States, and all have representatives here to introduce and sell them. It is useless to try to sell any particular make of motor cars by advertising them, and the only way to put them on the market is to have an agent or representative here to introduce them and show their qualities.

The roads are generally good and quite level, adapted to the use of motor cars, and many of the native princes and other wealthy gentlemen are buying them. The cars are generally imported complete, in boxes or crates, and should be securely packed. The cost of gasoline for their use is about 50 cents a gallon, and the duty on motors is 5 per cent ad valorem.

The New York Exporting and Importing Company has a branch house here and has sold many cars, especially the low-priced "Oldsmobiles." There is a large field in India for the sale of motor cars, especially medium-priced ones, but a representative must be here to effect sales.

R. F. PATTERSON, *Consul-General.*

CALCUTTA, BRITISH INDIA, *November 15, 1904.*

MONETARY REFORM IN MEXICO.

(*From United States Consul-General Parsons, Mexico City, Mexico.*)

I inclose herewith a newspaper translation of a bill which was introduced on November 18 into the Mexican Congress by Minister of Finance J. Y. Limantour, proposing a radical change in the monetary standard of the Republic, which, if carried into effect, will put Mexico's currency on a gold basis. The bill is self-explanatory. It is preceded by a preamble, in which Minister Limantour reviews at length present and former conditions, as well as the results which would follow the enactment of the proposed legislation.

In explaining the bill, the minister said that while there has been general prosperity in the country of late years, it has not been due to the high rate of exchange but to climatic conditions, the policy of the Government in establishing reforms, and to the benefits accruing from the cessation of civil strife. Acknowledging this, however, to be a somewhat mooted question, he insists that it is manifestly of paramount importance that the pernicious effects of an oscillating medium of exchange shall be done away with, as it makes a gamble of legitimate enterprises and thus tends to bar many capitalists from investing in the development of Mexican resources. This is the keynote of the preamble.

The bill proposes to place the Mexican currency on a gold basis, with silver coin in circulation and the present dollar or "peso" as the standard at the fixed value of 50 cents gold. Silver will therefore be raised from its bullion value to a rate slightly in advance of its intrinsic worth, and the present free and unlimited coinage restricted to the amount considered necessary.

While the new law may work hardship to the silver miners, Minister Limantour contends that they are in a minority, and must not, therefore, be considered when their interests are antagonistic to those of the majority. He also states that they will not feel the burden so heavily as is generally supposed, and gives statistical substantiation of this view. The lightening of the mint and stamp tax, etc., is designed for their relief.

A few days before the plan for the monetary reform was decided on, New York exchange was quoted at 2.17½, the highest point reached in some time. On the day on which the bill was presented to Congress it was 2.12½, and ten days later the quotations were 2.03 buying and 2.04 selling.

The universal opinion appears to be that the change will be of inestimable advantage to the country, but there is a great difference of opinion as to when it will go into effect. A leading local banker tells me that there are in circulation about four billion dollars (Mexican), of which only about one hundred millions are now in the Republic. The bill provides that this enormous amount in other countries shall be denied return to the Republic, and for this reason some of the bankers believe that the bill will be passed at once, in order to prohibit its being shipped in by speculators counting on its ultimate rise in value. While all the bankers concede this to be a strong point, some of them think that only that part of the bill relating to this particular phase of the subject will be enforced immediately, and that the other parts may not be acted upon for some time. On this point Mr. Limantour writes as follows: "If the appreciation of the dollar over the silver which it contains is to be the fruit of the efforts and sacrifices of the Mexican nation, it would be by no means just that the profit involved in that operation should be enjoyed by persons in foreign countries who have accepted the dollar merely for its intrinsic value, without ever entertaining the remotest intention of utilizing it as currency in dealing with Mexico. Thus no one will be injured by the prohibition to reimport Mexican dollars, but in order that the country may not become liable to even a shadow of reproach in this respect a period of time may be allowed in which persons desiring to reimport dollars may do so."

All local bankers seem to think that the whole bill will be passed eventually. One of them states that if the bill is not put through at once it will be the first instance in a long time of the Government's

failure to vigorously prosecute a policy once practically decided on. Some of the bankers consider that a few days will see exchange stationary at 2.00, while others think it more likely that the rate will fluctuate between 2 and 2.05, till it is finally fixed by the passage of the bill at 2.

In a general way the bill has been anticipated for some time, and consequently little surprise is expressed. This is due chiefly to the work of the Mexican and American Government committees, which made such a careful study of the subject last year.

THE BILL.

ARTICLE 1. The Executive of the Union is empowered to amend the monetary laws of the Republic, determining the kinds of coin that shall be legal tender, the value, weight, fineness, and other characteristics of said coins, their margin, or "remedy," both as to mintage and circulation, and in general laying down such provisions as said Executive may deem necessary to perfect the monetary system and adapt it to the economic necessities of the Republic.

In the exercise of these powers the Executive will conform to the following rules:

(a) The present silver dollar, containing 24.4391 grams of pure silver and 2.6342 grams of copper, will be retained and will be unlimited legal tender.

(b) There will be ascribed to this silver dollar a value equivalent to 75 centigrams of pure gold.

(c) The subsidiary silver coins will contain a smaller quantity of that metal than that which, proportionally speaking, they ought to have on the basis of their token value in terms of the peso (dollar).

(d) These subsidiary coins will not be legal tender for more than \$20 in one and the same payment nor will the bronze coins be legal tender for more than \$1 in a single payment; but the Government will designate offices where private persons may freely secure hard dollars in exchange for subsidiary silver coins or bronze coins which they may present in amounts of \$100 or multiples thereof.

(e) The mints will not be obliged to coin the precious metals presented to them, but the issuance of coined money of all kinds will be reserved for the Executive, so that said Executive may exercise this power in accordance with the laws, and on such occasions and in such quantities as they may prescribe.

ART. 2. The Executive of the Union is also authorized to adopt the following measures:

(a) To prohibit the importation of Mexican silver dollars into the territory of the Republic.

(b) To demonetize coins which it considers desirable to withdraw from circulation.

(c) To coin for exportation dollars of designs antedating the present one.

(d) To alter, if found desirable, the design of the present silver dollar.

(e) To clothe with legal-tender functions, for a limited period of time, the gold coins of other nations, at the same time fixing their

value in Mexican coin, in case the standard ounce of silver in London goes above 28½ d.

(f) To modify the fiscal laws in regard to mining, lightening the aggregate burdens which are borne by the precious metals in the shape of the 2 per cent coinage tax, the 3 per cent stamp tax, and the dues for assay, melting, refining, and separation.

(g) To modify the laws which authorize the collection of a tax of \$10 per claim on the title deeds of mines and also the annual tax on mining claims, so as to favor mines producing the precious metals.

(h) To modify the law of June 6, 1887, so as to reduce to 1½ per cent the maximum of 2 per cent which, under that law, is the present limit of local taxes on the precious metals.

(i) To remove or reduce existing import duties on articles destined for use in mining.

(j) To organize offices which, without loss to the public exchequer, will advance money on the value of silver bars, and afford to holders thereof facilities for the sale of said bars on the best possible terms, and, with this end in view, to make suitable contracts in the Republic and abroad.

(k) To modify civil and mercantile legislation in all matters connected with payments in money.

(l) To modify the precepts of the banking law which have direct or indirect connection with metallic currency, or which affect the instruments of credit or transactions in exchange.

(ll) To appoint a committee whose functions shall be to regulate the monetary circulation, and to accomplish, as far as possible, stability in the rate of foreign exchange, and to this end the Executive may clothe said committee with such powers as it sees fit, and may also intrust to it the manipulation of a special fund, the amount of which will be fixed by the Executive.

(m) To issue all suitable enactments, including such as aim at the suppression and punishment of misdemeanors and offenses connected with the subject-matter of this law; to organize services and establish offices that may be necessary, and to defray the expenses needed for any of the purposes hereinbefore set forth; to which end the Executive may suppress or modify the present distribution of offices, their personnel, and the appropriation and disbursements authorized by special laws or by the budget of expenditures.

JAMES RUSSELL PARSONS, Jr., *Consul-General*.

MEXICO CITY, MEXICO, *November 23, 1904.*

COMPETITIVE ESSAYS ON HYDRAULIC CEMENTS.

The full text of the announcement regarding the prizes offered in Germany for essays on the properties of hydraulic cements, information concerning which was recently published in the Daily Consular Reports (No. 2152, January 9, 1905), follows (as issued in English by the Prussian ministry of public works). The announcement was received by United States Consul-General Frank H. Mason, Berlin, from the Prussian minister of public works, through the intervention

of the American embassy, and was transmitted by the consul-general under date of November 25, 1904.

In order to promote the knowledge of the properties of hydraulic cements, especially of Portland cement, the undersigned Prussian minister of public works, jointly with the Prussian ministers of war, of agriculture, of trade and industry, of the German secretary of the navy, and under participation of the German Society of Portland Cement Manufacturers, issues this prize competition for scientific papers on the chemical processes which take place during the hardening of hydraulic cements.

The prizes amount to the sum of 15,000 marks (\$3,570), of which amount 10,000 marks (\$2,380) have been granted by the Prussian and German governments and 5,000 marks (\$1,190) by the German Society of Portland Cement Manufacturers.

According to the propositions presented by the committee on this subject the following questions are to be solved:

Demonstration of the properties and of the hardening process of calcareous hydraulic cements, synthetically, analytically, microscopically, mineralogically (hardening in air, fresh water, and sea water).

(a) To prove whether silicic acid, alumina, and oxide of iron combine themselves with lime as crystalloids in stable proportions or as colloids in varying proportions.

(b) To prove whether double combinations result between silicic acid, alumina, and oxide of iron with lime, and in which manner these substances are engaged in the hardening process.

(c) Consideration of the swelling phenomenon which accompanies the hydraulic hardening.

(d) Consideration of the influence of the temperature and length of time of the burning process on the different kinds of hydraulic cements.

(e) Properties of puzzolana and its hardening with lime. Beginning with silicic acid as the most active and prevailing puzzolana, alumina, oxide of iron, and manganese as independent, and in combination with silicic acid, as natural or artificial puzzolana.

The competitors may choose, for the purpose of investigation, any or all of the foregoing questions, in which case it is not considered necessary that the actual theories be accepted as a given direction.^a

Papers should be inclosed in sealed envelopes marked "Zum Preis-ausschreiben, betreffend die Erhärtung hydraulischer Bindemittel" and be addressed to the Ministerium der öffentlichen Arbeiten, Wilhelmstrasse 80, Berlin W., which will accept said papers until 3 p. m. December 31, 1906. Papers should be signed with a pseudonym and the name of the author inclosed in a sealed envelope marked with the same pseudonym, which will only be opened in the case the paper receives a prize. All other papers will be returned to those persons who identify themselves by presenting the receipts for the delivery of

^aIf desired, information will be given to competitors about the tests and their results, which are at present being made with hydraulic cements in sea water on the island of Sylt. This information will be given by the Königliches Materialprüfungsamt in Gr. Lichterfelde W. 3, near Berlin, and by the Königliche Wasserbauinspektion in Husum. Permission can be obtained from these offices to use the laboratory in Westerland-Sylt for the purpose of making samples and using the tanks there, provided the official tests be not disturbed.

the papers, or prove their identity in some other manner. Papers received after the date of delivery will not be considered.

The participation is open to all nationalities, the only condition is that the papers should be written in the German language.

The prize jury is composed of the following gentlemen: Prof. Dr. van 't Hoff, Berlin; Prof. Dr. Scheibe, Wilmersdorf near Berlin; Doctor Michaëlis, Berlin; E. Cramer (*Tonindustrie-Zeitung*), Berlin; Prof. Dr. Wilhelm Fresenius, Wiesbaden; Direktor Fr. Schott, Heidelberg; Dr. H. Passow, Hamburg; and of officials of the Königliches Materialprüfungsamt in Gross-Lichterfelde near Berlin.

The bestowal of one or more prizes is dependent on the value and importance of the papers and need not take place at all if there is no paper which seems deserving of a prize.

The minister of public works decides on the distribution of the prizes according to the judgment of the jury.

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CAPE TO CAIRO RAILWAY.

(From United States Consul Ravndal, Beirut, Syria.)

In continuation of my report entitled "Railways in Africa" (Daily Consular Reports, No. 1993, July 1, 1904) I would call attention to the following interview (printed in various newspapers), which Reuter's Agency had with Sir Charles Metcalfe on November 10.

Sir Charles Metcalfe, who left on that day for Victoria Falls in order to superintend the extension of the Cape to Cairo Railway from the Zambesi to Barotseland, will, on his arrival in South Africa, commence work upon a scheme which is about to be inaugurated for the settlement of colonists along the Cape to Cairo Railway. In the course of the interview Sir Charles said:

One of the greatest needs of South Africa is an increased white population, and with the object of inducing colonists to come into the country now being tapped by the Cape to Cairo Railway, land is being surveyed which will be given out in free grants of 160 acres each to bona-fide settlers. At the present moment we are reserving plots along the line from Bulawayo to Salisbury. No piece of land will be more than 3 miles distant from the railway. This scheme will be carried out north of Bulawayo right up to the Zambesi, and beyond, as the railway progresses, and judging from last year's favorable results of cotton and tobacco cultivation, settlers should have a prosperous future before them. I expect that some settlers will begin taking up these grants in November. With £100 capital intending settlers ought to be able to support themselves until their first crops are salable. If, after a year's experience, these settlers find the country and the prospects satisfactory, money will probably be advanced, when necessary, to enable them to send for their families and continue work on a larger scale.

Discussing the Cape to Cairo line and its extensions, Sir Charles made this statement:

Good progress is being made with the Cape to Cairo Railway north of the Zambesi, on the section known as the "northern extension," from Victoria Falls to Kalomo, the administrative center of Barotse-land, a distance of 100 miles. It is expected that the line to Kalomo will be opened in a few months. By the late spring it ought to be possible to run trains from Cape Town to the center of the Barotse country. By next spring, when the line reaches Kalomo, the question will arise of the further extension of the railway toward Tanganyika. By that time we shall have accumulated further evidence of the mineral deposits in northwest Rhodesia, to the south of the lake. From Tanganyika it is probable that there will be two lines, one through the Kongo and another through German territory. There will be plenty of scope for two lines, one on either side of the lake. I know there are people who think the Cape to Cairo line mythical. There are others who shrug their shoulders at this railway development and say, "Will it pay?" I am firmly of opinion that there will be not merely one line in this region, but that it will become a network of railways. It is quite impossible to say when the Cape to Cairo Railway as a whole will become an accomplished fact, but I am sure that it must become one at no very distant date. The way to make the Uganda Railway a paying concern is to join it up with Khartum, and if Sir William Garstin's irrigation projects at Roseires are carried out, the line must be pushed on from Khartum to Roseires. Thence, naturally, it must be gradually extended to the Uganda line.

In my report entitled "The Cape to Cairo Railway" (Consular Reports, September, 1902), I foreshadowed the possibility of a double line, one through Kongolese territory, via Stanley Falls, the other through German East Africa, via Tabora. This grand scheme includes connections with the Kongo Free State river and railway system, and with Dar-es-Salaam, on the East African coast, feeders east and west. We shall probably before long be further enlightened as to the feasibility of railroad construction in these territories, as Major Powell-Cotton, of the British army, has just started on another expedition, the object of which is to explore the vast region lying between the Nile and the Zambesi. Major Powell-Cotton, according to the Egyptian Gazette, left Cairo a few days ago for Khartum, at which place he would embark on a Sudanese government steamer and proceed to Gondokoro, on the Sudan-Uganda frontier, thence working his way into the Kongo Free State.

The following account, taken from the Bulawayo (Rhodesia) Chronicle, very fairly represents the situation. It was more fully described in my report of March 30, 1903, entitled "Progress in Africa" (Consular Reports, July, 1903).

The construction of the Cape to Cairo Railway is proceeding satisfactorily, and the route which the line will follow toward Khartum

has been tentatively decided upon. At present the line is in process of construction on the north side of Victoria Falls toward Kalomo, while the work of erecting the huge bridge which will cross the falls is proceeding from either side. It is hoped that by the time the Kalomo line is finished arrangements will have been made for extending the railway another 250 miles to the copper district north of Kafue River, and then the project is to carry the line to Lake Tanganyika. The railway will traverse the north of eastern Rhodesia to the south end of the lake. It has not yet been decided whether the line will follow the eastern shore of the waterway, or whether steamers on the lake will be employed to continue the means of communication. The railway, however, will be joined with the Uganda line and then pushed northward past Fashoda to Khartum.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, November 25, 1904.

SOAP TREE OF ALGERIA.

(From United States Consul Kidder, Algiers, Algeria.)

The *Sapindus utilis* is not, as is generally supposed, indigenous in Algeria. It was introduced into the colony in 1845 under the name of *Sapindus indicus*, and in 1859 a number of young plants grown in Algeria were already offered for sale. In 1869 the catalogue of the Jardin d'Essai of Algiers gives the name of another species as *Sapindus emarginatus*, believed to be a native of Central America. Both these names were erroneous. The soap tree in Algeria differs widely from both of these species. It appears to be a hybrid, and has characteristics quite different from those of any of the known varieties coming from India, Japan, China, and Central America, and it is superior to all in general usefulness. For this reason Doctor Trabut, director of the botanical services of the general government of Algeria, suggested the name of *Sapindus utilis*, which has been generally adopted.

The *Sapindus utilis* is a large tree with a smooth, straight trunk. The plants reach to about 10 feet in height in the first two years, and begin to bear in six years, but the fruit production increases largely as the tree becomes older. The flowers are male and female or hermaphrodite. The berry is round in appearance, but with a distinct keel like that of a walnut encircling it. It is, when fresh, smooth, shiny, and fleshy. When dried it is tough, gummy, and translucent; the color varies from yellowish green to brown. In size it varies from about half an inch to an inch in diameter. Dried, it weighs from one-eighth to one-quarter of an ounce. The seeds form about a third of the total weight. The tree when fully grown is from 40 to 50 feet tall, and produces 200 pounds of fruit annually.

Several varieties produced from seed have given poor results. The only practical method of reproduction is from cuttings. These cut-

tings should be planted in February in Algeria and countries with similar climate. They must be copiously watered during the summer.

So far the cultivation of this tree in Algeria has been confined to the low-lying lands near the coast (the orange belt), but it is believed that it would endure a more severe climate. The only large plantation of these trees is that of M. Bertrand at his property of Boukandoura, about 18 miles from Algiers, covering some 150 acres; but there are many small plantations, and recently the cultivation of the tree is being largely undertaken.

There are no important manufactures of soap-tree products in Algeria. The entire product of the plantation referred to above went last year to Germany. A good deal of the fruit is employed in its natural state, and many chemists produce specialties from it, such as "saponine," an excellent washing powder, "sapindine," a reputed hair wash, and many other articles for toilet purposes. Panama wood, which is extensively used in Europe for washing, contains on an average about 8 per cent of saponine, while the dried fruit of the soap tree contains fully 28 per cent. When freight is taken into consideration the difference can be easily estimated.

The wood of the soap tree is also valuable. It is fine grained, takes a good polish, and is very suitable for furniture. The seed contains a considerable quantity of fine oil. It seems that the cultivation of this tree might be remunerative in California and in our Southern States.

DANIEL S. KIDDER, *Consul*.

ALGIER, ALGERIA, *December 12, 1904.*

PARIS AUTOMOBILE SHOW OF 1904.

(From United States Consul-General Gourdy, Paris, France.)

The automobile show this year is the largest and most important that has ever been held. Ten years ago, at the first exhibition of this kind, there were only 60 exhibitors; this year there are over 800—so many that there was not room for them all in the Grand Palais, large as it is, and it has been found necessary to place nearly 200 exhibits in the conservatories which were built for the exposition of 1900.

In some respects, however, the show is inferior to that of last year, at least from the point of view of the ordinary spectator. There is nothing of a sensational nature which appeals to the popular taste and attracts crowds. On the other hand, there is hardly a firm which has not introduced some improvements or rectified some faults, and though the unscientific public sees little or no difference, experts declare there is very satisfactory evidence that manufacturers are methodically trying to perfect the motor car.

American firms are not numerous. The houses exhibiting motor cars are the Olds Motor Works, of Detroit; the Pope Manufacturing Company, of Hartford, Conn.; the Pope Motor Car Company, of Toledo, Ohio; Gardner-Serpolet, and the Westinghouse Company.

Gardner-Serpolet have effected some small but important changes in their steam cars in the regulation of the blast and the arrangement of the chimney. The Pope "Weatherly" electric cars are equal in all respects to those of the majority of French makers, and are wonderfully cheap. The Oldsmobile car is becoming very popular in France, and an attempt is now being made to go around the world in one of these machines.

It can be said that there is no great novelty of much interest to the manufacturer. It is in the upholstering and carriage-building industry that the great improvements are to be found. Nearly all the famous Parisian carriage builders have now taken up the construction of the bodies of automobile cars, and it is not unusual for a purchaser to order the motor and chassis from a well-known maker and have it fitted up to his own designs or wishes by another firm. This is one of the principal reasons of the excellence of the French automobile to-day.

Motor touring having become so popular, the Automobile Club of France offered prizes for the best designs for tasteful and cheap furniture for hotel bedrooms, to be exposed during the exposition. Eighteen firms have competed, and most of the bedrooms shown are neat, cosy, and comfortable. It is satisfactory to note that much attention has been paid to hygiene—formerly far too much neglected in French hotels—a bath, toilet room, and, in some cases, shower bath, being contained in a small cabinet adjoining the bedroom.

Some interest is now being given to the construction of light and heavy motor vans for the delivery of goods, and it is anticipated that a great deal of business is to be done in this branch of the industry, there being more firms, no doubt, in need of conveyances for the delivery of goods to customers than private individuals needing cars for touring. The city of Paris now has street sweepers, fire engines, post-office vans, and dust carts propelled by motor.

JOHN K. GOWDY, *Consul-General*.

PARIS, FRANCE, *December 15, 1904.*

COLLECTION OF CHINESE TRANSIT FEES POSTPONED.

(*From United States Consul Anderson, Hangzhou, China.*)

Soon after the 1st of October it was announced by the Chinese authorities that, commencing with October 20, 1904, fees for certain services would be charged by the customs service, and among these

fees, indeed the real object of the scheme, was a charge of 1 haikwan tael (about 70 cents gold) for each transit permit issued for the transportation of goods from the coast to interior points in China, and 3 taels (\$2.10) for each grain permit covering the transportation of not more than 500 piculs (66,150 pounds) of grain. These charges represent not only a new tax upon the commercial interests of China and nations doing business with China, but also a disposition to hamper trade by the many old taxes and hindrances which hitherto made trade in China difficult and vexatious, and which the recent trade treaties have been intended to remove.

The announcement that these additional fees would be imposed provoked immediate and strong protest. The matter was taken up before the provincial and other authorities and it was represented that the fees were opposed to the letter and spirit of the new treaties and would result in a vast amount of damage to general trade. The matter was held in abeyance for some time, and in the first week of November it was announced, through the provincial foreign relations taotais, that the imposition of the fees had been indefinitely postponed. It is now believed that the scheme to thus wrest more taxes from the business of the country will be dropped.

(GEORGE E. ANDERSON, *Consul*.)

HANGCHAU, CHINA, *November 5, 1904.*

CANADIAN FOREIGN TRADE AGENCIES.

(*From United States Consul Worman, Three Rivers, Quebec.*)

The Canadian Manufacturers' Association at a recent meeting voted to visit European countries for the purpose of finding new markets for Canadian wares. At least 300 manufacturers from all parts of the Dominion have signified their intention to be of the party to cross the ocean near the end of June, 1905.

The association has also, through its special committee on commercial statistics, taken up the question of appointing foreign correspondents. At a meeting of the committee on December 8, 1904, in the city of Toronto such appointments were approved, in order that Canadian manufacturers might be kept informed of markets opening for Canadian manufactures in Europe. The agents are to be charged also with reports on the financial standing of foreign houses. What little has been done by the manufacturers' association through foreign agents has proved so fruitful as to cause this enlarged circle of appointments.

It was also voted that the association publish in its official organ the statistics of all importations of manufactured merchandise into the

Dominion. Another important step taken by the association was the appointment of a committee charged to inquire into the question of technical education.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *December 9, 1904.*

NEW BRUNSWICK FISHERIES.

(*From United States Commercial Agent Beutelspacher, Moncton, New Brunswick.*)

The St. John fishermen have caught within the past few weeks about 12,500 barrels of the little fish known as sardines. Of these 5,000 barrels were sold to Nova Scotia lobster fishermen for bait, and will be kept in cold storage until the fishing season opens in January; the remaining 7,500 barrels are sold to canneries. The fish sold for bait brought \$2.25 a hogshead of 5 barrels, and the remaining fish \$2.50 a hogshead. This is the second season in which "sardines" have been caught in St. John Harbor, but it is believed these little fish have been going to the harbor for years. Even at the low prices prevailing this year the fishermen of St. John found it profitable to prosecute the business. With the sardines thousands of herring were captured, so that the fall fishing of southwestern New Brunswick has considerably augmented the receipts of those engaged in the industry.

It is of interest to note that the Dominion government maintains at St. John a "pond" in which salmon caught by the local fishermen are stored each summer until breeding time, when the eggs are sent to the hatcheries. This year more than 5,000,000 eggs were thus secured. Of the fish thus caught 800 were tagged with brass tags and liberated. It is expected by this means to learn, if any of these fish are captured in future years, something of their habits, their increase in weight in a year, and whether or not they spawn each season. The eggs taken from the salmon are sent to hatcheries in different parts of the Dominion, there hatched, and the fry placed in rivers where the salmon are thought to be getting scarce.

GUSTAVE BEUTELSPACHER, *Commercial Agent*.

MONCTON, NEW BRUNSWICK, *December 2, 1904.*

PROPOSED REDUCTION OF SPANISH DUTIES ON WHEAT AND WHEAT FLOUR.

(*From United States Consul Bartleman, Seville, Spain.*)

I inclose a translation from the *Heraldo de Madrid* of November 29, 1904, relative to the proposed reduction of duties on wheat and wheat flour in Spain. Under the present tariff wheat and wheat flour pay

duties of 6 and 10 pesetas per 100 kilos (\$1.16 and \$1.93 per 220 pounds). I shall duly apprise the Department as soon as the bill is approved and enforced.

Since wheat and wheat flour pay duty in gold, the peseta, when used in connection with duties, has been valued at 19.3 cents gold; otherwise the value of the peseta is calculated at 13½ cents gold.

PROPOSED LAW.

The secretary of the treasury, during yesterday's session of Congress, read the following bill relative to the reduction of duties on wheat and wheat flour in Spain:

ARTICLE I. From the day of the promulgation of this law the duties on imported wheat will be reduced to 4 pesetas (77 cents) per 100 kilos (220 pounds), and the duties on imported wheat flour to 7 pesetas (\$1.35) per 100 kilos. This reduction shall remain in force so long as the price of wheat exceeds 28 pesetas (\$3.78) per 100 kilos on the Castilian markets, quotations in the markets of Valladolid, Salamanca, Zamora, Palencia, and Burgos being taken. The market price declining, but not reaching a figure lower than 27 pesetas (\$3.64) per 100 kilos, the Government shall establish the duties provided for by the law of March 14 last, while in case the market price falls below 27 pesetas per 100 kilos, the duties of the ruling tariff shall again be applied by the Government.

ARTICLE II. The provision made in Article I shall apply to wheat shipments arriving in Spain the day on which this law is promulgated; furthermore, to those which on said day are being cleared at the custom-house, as well as to shipments in bond or warehouses, in conformity with article No. 110 of the general custom-house regulations.

R. M. BARTLEMAN, *Consul*.

SEVILLE, SPAIN *December 2, 1904.*

CANADIAN-AMERICAN COMMERCIAL AND SOCIAL RELATIONS.

(From United States Vice-Consul-General Hill, Halifax, Nova Scotia.)

The business and social relations between Canada and the United States are growing closer than ever before. The American "invasion" of the Dominion is an established fact, and the provinces are rapidly becoming Americanized. A large number of the leading American corporations have established plants in the Dominion, near the border, to supply their Canadian trade, and there is scarcely a week that some American firm is not granted a license to build a factory and engage in business in Canada. American capital is welcome, as are Americans in every part of the Dominion, and the thousands of tourists who spend their summer vacations in Canada, practically all from the United States, are everywhere greeted by the American flag that is almost as familiar throughout the Dominion as the union jack.

The intercourse between the citizens of the United States and of Canada is almost as free as between the people of the several States, especially that between residents of the maritime provinces and the New England States. The last census showed that 1,200,000 Canadian citizens were residents of the United States. These naturally encouraged friends and relatives to follow their example, and they have married and intermarried until there is scarcely a family in Canada which has not one or more of its members residing in some one of the States. In every town and city here, familiar signs, such as Western Union Telegraph Company, American Express Company, American life and fire insurance companies, and other leading American corporations, greet one at every step, while the counters of news stands display the leading American dailies.

Nova Scotia has more trade with Boston than with Montreal, and the people resemble Americans more than they do the English—their dress, manners, customs, pronunciation are decidedly American. Their money is dollars and cents, and American money passes freely at par in all parts of the Dominion. One never hears pounds, shillings, or pence mentioned outside of the custom-house. Canadian postage is interchangeable with ours, and weights, measures, business methods, and educational systems are similar to those of the United States.

GEORGE HILL, *Vice-Consul-General.*

HALIFAX, NOVA SCOTIA, *November 22, 1904.*

AMERICAN PRODUCTS IN AMIENS, FRANCE.

(*From United States Consul Haynes, Rouen, France.*)

On February 9, 1904, a consular agency, under the jurisdiction of Rouen, was established at Amiens. The district covered by this agency consists of the department of the Somme, of which the capital is Amiens, a city of some 100,000 inhabitants, situated 72 miles from Rouen and 80 miles from Paris.

Some years ago a great quantity of velvets and lastings were shipped from Amiens to New York, but this commerce is now entirely stopped. Jute, linen, unbleached and dyed, and printed velvets, linen, and cotton hosiery, shoes, wool, and sugar are the principal articles manufactured. In addition to these there are the products known as the "articles of Amiens," consisting of Scotland cashmere, merinos, Utrecht velvets, satins for shoes and buttons, and articles for wearing apparel and umbrellas. Milling is also an important industry.

Amiens is situated on the canal of the Somme, 39 miles from its seaport, St. Valery-sur-Somme. This canal has an anchorage all the year round of over 6½ feet. The principal products ascending this canal are materials for building, minerals, wood for construction

and burning, and some 3,000 tons of agricultural products, the total annual average being about 60,000 tons. Descending to the sea for exportation are a few mineral products and timber, in all amounting to a little over an average of 3,000 tons yearly. By canal Amiens has connection with Paris over a course of 204 miles, but not more than 85,000 tons pass annually over that portion connecting Amiens with the canal du Nord, by which goods can go to Paris.

In Amiens and throughout the department of the Somme very few American goods are to be found, with the exception of typewriters and agricultural implements. The same opportunity exists for their introduction there as exists at Rouen, but "seeing" is not always "believing" with a Frenchman, nor often is even feeling and using. Some good might probably result if circulars, catalogues, and other printed matter were sent to Charles Tassencourt, the consular agent there. He stands high commercially, is acquainted throughout the district, is much interested in trade and commerce, especially between the United States and France, and would do all in his power to bring any literature sent him to the attention of parties interested. Journals of the hardware, typewriter, canned goods, clothing, furniture, and dry goods trades put into the hands of Mr. Tassencourt might also prove of benefit.

Yale locks, window fastenings, combination devices, and all such ingenious American contrivances, as well as desk and other furniture, gardening tools, sewing machines, electrical supplies, etc., should find a market there. The American goods at present sold at Amiens go there from Paris.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *December 3, 1904.*

WAGES OF CARPENTERS IN FREIBURG, BADEN.

(*From United States Consul Liefeld, Freiburg, Germany.*)

The following is a translation of the terms of the labor contract between the boss carpenters and their workmen, which went into effect for a period of two or more years on March 15, 1904. The daily hours of labor shall be: March 16 to October 15, ten hours; October 16 to November 15, nine hours; November 16 to December 31, eight hours; January 1 to February 15, eight hours; February 16 to March 15, nine hours.

The ten-hour labor day shall last until 6 in the evening, with a pause of half an hour for breakfast and an hour and a half noon intermission, but no afternoon pause. During the time of an eight-hour labor day there shall be no intermission at all.

The wages shall be according to work accomplished, yet the lowest

pay for the laborers who are not yet 25 years of age shall be 37 pfennigs (8.8 cents) an hour, and for those who are older than 25 years 41 pfennigs (9.76 cents) an hour.

For extra work beyond the regular hours, if that ever becomes necessary, an extra sum of 10 pfennigs (2.38 cents) an hour is to be paid.

Night and Sunday labor can be required of the workmen only in cases of urgent necessity, and double the usual pay must then be given. The time from 8 in the evening until 5 in the morning shall be considered night-labor time.

Work done outside of the city limits within a radius of 6 kilometers (3.73 miles), if the regular labor time can be observed and a daily return to the city is possible, shall be paid an increase of 10 pfennigs (2.38 cents) an hour. At greater distances, when a daily return is not possible, an increase up to the limit of 1.50 marks (35.70 cents) a day shall be paid, the amount depending upon local circumstances and requirements. In the case of married employees the terms of this article shall be followed according to mutual understanding and arrangement.

There shall be no time or term of notification to stop work required from either side.

In case of serious difficulties or misunderstandings a committee consisting of representative employers and employees shall take the matter into consideration for suitable action.

This agreement shall be valid from March 15, 1904, until March 15, 1906. If by January 1, 1906, neither side has raised any objections nor made any new recommendations, then it shall remain in force for another term of two years.

E. THEOPHILUS LIEFELD, *Consul*.

FREIBURG, GERMANY, *November 10, 1904.*

AMERICAN SHOES IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

The prospect for the sale of American shoes in China is brightening. It will be some time before any considerable number of the Chinese people will be able to buy American footwear, but the number is constantly increasing, and trade figures show a marked increase in the imports of this article. The port of Hangchau and tributary country is strongly native Chinese in character, Hangchau being the last of the great Chinese cities to commence to feel the influence of foreign trade. It is decidedly significant, therefore, that the trade figures, as reported by the customs service, show imports of foreign leather goods in 1903 amounting to \$1,813, against \$658 in 1902 and nothing in 1901. On the other hand, imports of leather made from cowhides into

this port have decreased from 129,168 pounds, valued at \$40,701 gold, in 1901, to 117,970 pounds, valued at \$22,725, in 1902, and 103,384 pounds, valued at \$21,218, in 1903. It is to be understood, of course, that these figures do not measure the full amount imported in those years and, on the other hand, that they cover leather goods of all classes. It is not uncommon, however, to see well-to-do Chinese, even in Chinese cities, wearing foreign shoes. As the buying power of the Chinese people expands there ought to be an immense increase in the use of foreign shoes. American goods will probably be taken up quickly on their merits, if grades suitable for the trade in China are offered

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *November 11, 1904.*

AMERICAN INDUSTRIAL ENTERPRISES IN CANADA.

(From *United States Consul-General Holloway, Halifax, Nova Scotia.*)

The American Dyewood Company, with a capital of \$40,000, has been licensed to manufacture dyestuffs, anilines, etc., in Hamilton, Ontario.

The St. Louis Reduction Company, according to the Halifax Maritime Merchant, has lately received a Canadian charter and proposes to introduce a new process by which it will make such paints as zinc white, white lead, chrome, and other colors direct from Ontario ore. There are reefs of various kinds of ore in northern Ontario of too low grade to admit of use by the older methods, which are available for the purposes of the reduction company. The new method is very cheap and simple.

On completion of the Canadian Niagara Power Company's plant at Niagara Falls, Ontario, will be commenced the construction of several large manufacturing plants, which are to be built with capital supplied by United States corporations and conducted as Canadian branches of these houses.

W. H. HOLLOWAY, *Consul-General*.

HALIFAX, NOVA SCOTIA, *December 9, 1904.*

CANADIAN STEEL BOUNTY.

(From *United States Vice-Consul-General Hill, Halifax, Nova Scotia.*)

The recent increase of duty on steel rails has given an impetus to iron and steel manufacturing as well as to coal production. It is claimed that the imposition of the \$7 a ton duty on imports of steel rails will mean an advantage of \$16 a ton for the Canadian manufac-

turers over those of the United States. This figures out as follows: Duty, \$7; bounty in Ontario on pig iron from Canadian ore, \$1; Federal bounty, \$2.25; Federal bounty on steel ingots, \$2.25; special duty under "dumping" clause, \$3.50; total, \$16 a ton. In future, steel rails imported from the United States will pay a duty of \$7 per ton, that levy being considered adequate to shut the door against American competition. But English rails will be allowed to enter Canada at a duty one-third lower, a difference which must give them a great advantage over the American product. Lest, however, the local industry suffer injury from British "dumping," a bonus of \$2½ a ton is allowed by the Dominion government to steel rails of Canadian manufacture. The result is that while American rails will be so heavily penalized as to shut them out, except at unremunerative prices, British competition will be met and counteracted to some extent by a State protective subsidy. This duty caused the opening of the Nova Scotia Steel Company's extensive works, as well as those of the Lake Superior Power Company at Sault Ste. Marie, both of which are now manufacturing steel rails that have been pronounced satisfactory by Government experts. These companies are reported to have entered into contracts to supply Canadian roads with sufficient quantities to keep their plants running for several years.

GEORGE HILL, *Vice-Consul-General.*

HALIFAX, NOVA SCOTIA, *November 22, 1904.*

TRADE OPENINGS IN SOUTH AFRICA.

(*From United States Consul Haynes, Rouen, France.*)

There is a market in South Africa for automobile vans and plows moved by steam or other power. The market is a promising one for the house sufficiently enterprising to send a representative there. Such representative would have to study the conditions of the country and give lectures and practical demonstrations to the farmers.

Incubators would also find a ready market in South Africa. A French journal remarks that the production of poultry is greatly below the consumption, and that from the great success resulting from expositions of fowls it is to be concluded that the raising of them is attracting much attention. The raising of ostriches presents another market for a special kind of incubator. The directors of the British South African Company report an increasing demand for all kinds of articles, especially hoes, picks, cutlery, blankets and bedclothes, clothing, salt, coffee, sugar, salted beef, etc. In 1903 licenses were granted to 217 merchants in the rural districts, and 61 licenses to traveling merchants. In the interior many villages contain Kaffir shops, which carry on considerable commerce with the natives.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *December 5, 1904.*

COMMERCE AND INDUSTRIES OF HANKAU.

(From United States Consul-General Wilcox, Hankau, China.)

OPEN PORTS IN THE HANKAU CONSULAR DISTRICT.

The open ports in this consulate-general are Kiukiang, Hankau, Shashi, Ichang, Changking, and Yochau (all located on the Yangtze River) and the new open port of Changsha on the Siang River in the province of Hunan. The distance these cities are located inland from the mouth of the Yangtze are Kiukiang 450, Hankau 600, Yochau 730, Changsha 800, Shashi 930, Ichang 1,000, and Changking 1,600 miles. They are all situated within a belt of the richest farming and mineral lands in China, extending 1,150 miles east and west, between east longitude 106° and 116° and north latitude 29° and 31°. For many years it has been asserted that more than one-third of the commerce in China passes up and down the Yangtze River. Owing to the many navigable tributaries that empty into the Yangtze west of Hankau, that city has become the chief commercial city of central China, and here all this immense traffic is transshipped, whether passing up or down river. It is estimated that the city (which is known as the mart of the eight provinces) controls 80 per cent of the trade of the vast empire that is included in the basin of the Yangtze between east longitude 96° and 116° and north latitude 26° and 36°.

TRADE AND EXCHANGE.

The reports at hand for the first six months of 1904 show that the harvests have been abundant and that trade during that period has been unprecedented. As there are prospects for opening up more railways in this district, which will have Hankau as a center, old routes of commerce will be tapped and turned toward this port, which is yearly improving and increasing its facilities for handling the vast commerce which even now comes to its gates. The Hankau customs reports for 1903 show that trade at this port increased over that of 1902 by 33,000,000 taels (\$21,318,000). The actual net value of the trade of 1903 was 99,000,000 taels (\$63,954,000^a), against 74,000,000 taels (\$46,620,000) in 1902 and 61,000,000 taels (\$44,103,000) in 1901. Foreign imports contributed 10,000,000 taels more than in 1902; exports, 14,500,000 taels; while native imports, always insignificant, showed but a slight advance.

For the second year in succession native traders have reaped rich profits, while foreign merchants can not complain, although toward the end of the year the rise of exchange curtailed shipment, owing to

^aThe haikwan (customs) tael was valued by the United States Treasury at 64.6 cents in 1903; 63 cents in 1902, and 72.3 cents in 1901, at which rates the reductions have been made in the Bureau of Statistics, Department of Commerce and Labor.

dealers up country obstinately holding out for prices as high as and in some cases higher than those obtained earlier in the year, when exchange was low and allowed a margin for profit. The rate of exchange between silver and cash fell. The average purchasing power of a local tael was 1,065 cash; at one time it was 1,031, against 1,120 the preceding year and 1,250 cash five years ago. The rise in price of cash (the universal medium of exchange in China) was severely felt by the laboring classes, the purchasing power of whose wages was thereby lessened in proportion to the less number of cash they obtained for a tael or silver dollar. In the latter part of the year the money market was extremely tight and interest high, but, nevertheless, there were few failures of native banks.

GOVERNMENT IRON WORKS AND ARSENAL AT HANYANG.

The Government iron works and arsenal have been running full time during the past eighteen months. During several months last year the arsenal was making double time, so that a regular night force was employed. In 1903 the iron works turned out over 28,000 tons of steel rails, of which some 16,000 tons were sold to the Pei-Han or Peking-Hankau Railroad, at an average price of \$31.37 a ton, while the output of pig iron, valued at 32 taels per ton, was increased from 75 to 120 tons a day. The iron and arsenal works employed five foreigners as managers and overseers, and over 3,000 native workmen. The iron works consume 5,000 tons of Japanese coal monthly and 15,000 tons of coke made from Ping-hsiang coal. During the year two new blast heating stoves (Cooper's) were added to the Siemens-Martin steel plant in the iron works, and a new machine and fitting shop, with additional machinery, was added to the arsenal, whereby new machines can be made and repairs done. The output of the arsenal has been increased from 40 to 50 Mauser rifles per day. It also turns out field batteries and cannon up to 5 inches caliber.

RAILWAYS.

The Hankau-Peking Railway is gradually nearing the Yellow River from the south and the north, so that a journey between these two cities can now be made in about five or six days by rail, except a gap of 50 miles between the termini of the railway, which can be made in two days by mule cart or chairs, or on horseback. There are no accommodations for foreign travelers along the line, other than Chinese inns, and foreigners contemplating the journey overland between Hankau and Peking should supply themselves with bedding and take provisions and a cook. Three classes of passengers are carried, the third class standing in open trucks (similar to our 40-ton coal cars). The fare for the latter class is 1 cent (Mexican) per kilometer (about 1½ cents per mile). The traffic, both passenger and freight, over the

completed portion of the road has exceeded all expectations, and no accident of any consequence has occurred involving loss of life. One item of freight brought to Hankau during the year was 38,000 bales of cotton grown in southern Honan and northern Hupe. The roadbed is well constructed and the expectation is that the bridge over the Yellow River will be finished in about three years, and that will complete the entire line from Hankau to Peking.

A short line of railway in the province of Hunan that has been under process of construction for four years is now completed for 30 of the proposed 60 miles. It runs through the coal district of Ping-hsiang and will have a branch running from near Ping-hsiang to Siangtan on the Siang River. This road has been built by the Ping-hsiang Coal Mine Company, a quasi official organization, in conjunction with the Han Yang Iron Works. There have been built at these works 4 shallow-draft tugs and 4 steel lighters of 340 tons each with a 6-foot draft, which will be used to bring down coal from a point 15 miles above Changsha, where the railroad leading from the coal mines will terminate. These boats will cross the Tungting Lake, enter the Yangtze River at Yochau, and proceed down to the Han Yang Iron Works, a distance of about 130 miles.

Concessions to foreign capitalists for railways from Hankau to Chentu (the capital of Szechuen) and from Hankau to Amoy (on the coast), in Fukien Province, have been under consideration for some months and it is expected that at no distant day these wealthy provinces will be connected by rail.

OPENING OF A NEW PORT.

Changsha, the capital of the wealthy farming and mineral province of Hunan, located on the Siang River, was opened July 1, 1904, under the Japanese treaty of 1903. This city is the commercial center as well as the capital of Hunan, and is on the proposed line of railway to run between Hankau and Canton.

STEAMERS.

The fleet of thirty-three steamers comprising the nine regular lines plying between Hankau and Shanghai have received an addition of two fine 3,000-ton steamers, which were put in commission in September by Messrs. Jardine, Matheson & Co. and Butterfield & Swire. These two boats have accommodation for 25 cabin passengers and have many improvements over the old steamers, which greatly add to the comfort of their patrons.

NEW YORK FREIGHT AND CABLE RATES.

What is known as a "conference" has been formed from May 1, 1904, by the steamship lines running to New York via Suez, and it

comprises all steamers in that trade, except a single line. The probable reason that this line was left out was the fact that it had put but two or three vessels on the route during the past year. At present the "conference" methods apply only to homeward-bound cargo.

A deferred rebate of 10 per cent on the amount of freight is paid to shippers who ship all their cargo by "conference" steamers. On freight shipped from May 1 to October 31, 1904, 5 per cent of this rebate is payable on January 1, 1905, to those "shippers who have thought it their interest to confine their support and shipments to the conference lines." A further 5 per cent rebate is payable April 30, 1905, on freight shipped previous to October 31, 1904, provided the shipper has remained loyal to the conference during the whole twelve months preceding. The price of the 5 per cent deferred on the next six months' freight is eighteen months' loyalty. Before the conference came into existence the through rate from Hankau was \$6.08 to \$6.70 per ton net. The rate now is \$7.91 less 10 per cent "deferred rebate" as above, or \$6.93 to a loyal shipper.

The one steamship line spoken of above has put on one steamer since the conference was formed, at \$6.08 per ton rate, and cleared a full ship.

The "conference" freight combination is a pernicious one for shippers who supply the cargo and allow themselves to be charged a higher rate of freight than is customary. An opposition to the conference which could offer frequent sailings, a "sine qua non" to a merchant, would be an advantage to the business with the eastern part of the United States.

Cable rates via Manila are now \$2.70 Mexican, against \$4.15 Mexican by the old route via Europe in 1903.

CAMPHOR FORESTS.

An extensive camphor forest is said to exist on the borders of Szechuen, Kweichau, and Hunan provinces. It is said to extend 100 miles, but it is only recently that the natives have begun to produce camphor for the market in that locality. Little is known of the region, as it is off the regular lines of travel and not visited by foreigners.

L. S. WILCOX, *Consul-General.*

HANKAU, CHINA, *October 29, 1904.*

FORMOSA'S CHIEF PRODUCTS.

(*From United States Consul Fisher, Tamsui, Formosa.*)

TEA.

Owing to favorable climatic conditions, the production of tea during the year 1903 was much larger than the average, and, taken generally, the oolongs were more desirable than those of 1902, averaging better

in cup quality and fully as good in leaf. The market opened early at Daitotei at very high prices, which, especially on the lower grades, declined gradually until late in the season, when they declined smartly, and at the end were lower than for many years. While the early shipments probably resulted in losses, the markets in the United States remained firm throughout the season and importations for the year, taken as a whole, no doubt resulted favorably to the importers in the United States.

The total export of oolong in 1903 was about 514,000 half chests, of which, roughly, 10,000 went to Great Britain, and the balance to the United States. The export of pouchongs for the year amounted to about 100,000 half chests, against 85,000 half chests for the year 1902. All pouchong teas are shipped to Amoy or Hongkong for transshipment to Singapore and the Straits Settlements.

RICE.

The rice crop of Formosa for the year amounted to 35,500,000 bushels (unhulled), some 5,000,000 bushels more than that of 1902. This unusually large crop resulted from the favorable climatic conditions which prevailed throughout the season and permitted the saving of the second crop, which is usually badly damaged by storms. Deducting from this amount the exports during the year, approximately 3,000,000 bushels, and the annual consumption, estimated at 26,000,000, gives a surplus of this crop remaining in the island at the end of the year of about 6,500,000 bushels. The total surplus, however, was probably somewhat larger, as a portion of the rice exported and consumed during 1903 was of the crop of 1902.

SUGAR.

The total production of sugar cane during 1903 amounted to 406,640 tons, and of sugar to 34,000 tons. These figures show decreases of 49 and 38 per cent, respectively, when compared with the figures of the preceding year. These extraordinary decreases probably resulted from the enforcement of the sugar-consumption tax throughout the Empire from October 1, 1901, which rendered unprofitable the careless and wasteful methods of cane growing and sugar manufacturing practiced by the Chinese. During the past five years this industry has received considerable attention and encouragement from the industrial department of the Formosan government, which has introduced for distribution among the planters the Rose Bamboo and Labaina varieties of Hawaiian cane; has purchased several modern sugar mills, which, after the economy in their use was demonstrated, were lent to manufacturers without charge; has granted tracts of land for cane cultivation, and has improved irrigation facilities. This has given a new impetus to the industry, which is passing out of the hands

of Chinese to the control of Japanese syndicates, who are applying modern and economical methods, and large tracts of land are being prepared for cane cultivation. Under the new condition of affairs this industry has a very promising future.

The results already obtained from the introduction of the Hawaiian varieties of cane have been extremely favorable. These varieties not only produce an enormous increase in the yield of cane per acre, but the percentage of saccharine content obtained is much higher than from the varieties heretofore grown in the island. In order to replace the old varieties with the Hawaiian as rapidly as possible, the industrial department will establish one or more plantations for the growing of shoots for distribution in each prefecture in the cane-growing districts. These plantations will be under competent directors, from whom planters in their respective vicinities may receive suggestions in the culture of cane; also a school of instruction in cane growing and sugar manufacturing is to be established at the government experimental gardens at Taimokuko, in the district of Tainan, in which a class of 50 students will be given a two-year course.

Of the sugar produced during 1903, 22,345 tons, or 63 per cent, were shipped to Japan; 1,988 tons, or 5½ per cent, were shipped to China, and the balance remained in the island for consumption.

CAMPHOR (GOVERNMENT MONOPOLY).

The production of camphor during the year amounted to 4,785,085 pounds, and of camphor oil to 3,560,748 pounds—increases of 14 and 12 per cent, respectively, over the production of 1902. America, Germany, Great Britain, and France receive practically all this product, in proportions of about 32, 29, 20, and 19 per cent, respectively.

GOLD.

A decrease of 9,495 ounces is noticeable in the production of gold during 1903, which amounted to 38,933 ounces. This decrease is shown in the output of dust, due to some misunderstanding between one of the mining syndicates and the native miners, which resulted in the closing down of the placer mines for several months of the year.

COAL.

There were 77,300 tons of coal mined in 1903, of which 19,000 tons were exported to Chinese ports, 13,000 tons were taken for ships' use at the ports of Formosa, and the rest was used by the Formosan Railway, various factories and plants, and private households.

SALT (GOVERNMENT MONOPOLY).

Owing to prevalence of local storms on the west coast, in the salt manufacturing districts, during the months of May and June, which

caused severe damage to the fields, the production of salt during the year amounted to only 50,600 tons, some 30,000 tons less than had been estimated. Of this production, about one-half was shipped to Japan, the rest remaining in the island for consumption.

SULPHUR AND OTHER PRODUCTS.

The year's production of sulphur amounted to 4,558,240 pounds, of which about two-thirds was exported to Hongkong for transshipment to Canton and the rest to the United States.

Of the other chief products, the crop of sweet potatoes amounted to, roughly, 700,000,000 pounds, ramie to 3,500,000 pounds, and jute to 3,600,000 pounds.

FRED D. FISHER, *Consul*.

TAMSUI, FORMOSA, *October 31, 1904.*

AMERICAN CARRIAGES IN MALTA.

(*From United States Consul Grout, Malta.*)

American-built carriages seem to be growing in popular favor in Malta. Within the last two years quite a number have been imported, either by the direct line from New York or by way of English branch houses. Such good satisfaction have these given that to-day an American carriage is considered to be unsurpassable. I believe, from the number of those who have called at this office to look over such catalogues as I have at hand, and the inquiries that have been made, that before many years our carriages will not be an unusual sight in these islands. The local public carriage, or "carozzina," as it is called here, is a vehicle especially built for these roads. These carriages are made here by various small establishments; there are probably about 2,000 in use. Carriage fares are so low here, and the country is so hilly, that almost everybody uses them even for short distances. Many of these carriages are sent from here to Gibraltar; in fact, most of those used at Gibraltar are from Malta. With the exception of Gibraltar, the Maltese type of public carriage is to be found at no other port in the Mediterranean. They are built to hold four and are very comfortable. As a rule, all carriages used in Malta are constructed on the cut-under system—that is, the front wheels turn under at a complete angle. Carozzini are sold here by the makers at from \$125 to \$150 each. Inasmuch as Malta makes and sells these carriages to Gibraltar, perhaps there may be a chance for some of our manufacturers to invade that field. As to making them for Malta it would be more of an experiment. I shall be glad to furnish such other information as may be desired upon application.

JOHN H. GROUT, *Consul*.

MALTA, *December 5, 1904.*

TREASURY RECEIPTS OF SPAIN.

Under date of December 6, 1904, United States Consul R. M. Bartleman, of Seville, transmits the following translation of an article which appeared in the *Heraldo de Madrid* of November 29. In reducing the receipts from Spanish to American currency, the consul has estimated the peseta at 13½ cents.

In the first ten months of the present year the treasury received through the various divisions of the Budget of State \$110,296,584. Of this amount \$102,968,115 pertain to the current account and \$7,328,469 to accounts of other years. The ordinary revenues amount to \$110,293,650, while in the same months of the four previous years (1900, 1901, 1902, 1903) these reached \$97,441,650, \$105,607,800, \$106,246,350, and \$108,799,200, respectively.

The progress of the Budget of State leaves much room for improvement, notwithstanding the \$1,485,000 by which the receipts of this year exceed those of last. The expenditures must have been larger than in other fiscal years, as no credits which had been appropriated for necessary services are canceled. It is remarkable that the taxes the bulk of which are indicative of an improvement in the fundamental situation of Spain's economy have been precisely those which up to date seem decreasing.

The following table shows the revenues collected during the first ten months of 1902, 1903, and 1904:

Ordinary revenues of Spain for the first ten months of 1902, 1903, and 1904.

Ordinary revenues.	1902.	1903.	1904.
Landed property	\$19,566,900	\$19,889,550	\$19,818,000
Industry	4,434,750	4,757,400	4,712,850
Income tax	10,381,500	11,340,000	11,807,100
Inheritance tax	5,829,300	5,680,800	5,567,400
Mines	889,650	1,040,850	1,004,400
Cédulas (personal tax)	1,166,400	1,240,650	1,260,900
National taxes	388,800	392,850	390,150
Private carriages	85,050	83,700	98,150
Basque and Navarre	676,350	678,360	676,350
Custom-houses	15,917,850	16,293,150	16,047,450
Sugar	2,377,350	2,531,250	2,640,600
Alcohol	384,750	915,300	1,123,200
Consulates	211,950	195,750	207,900
Excise taxes	9,197,550	9,360,900	9,444,600
Conveyances	2,617,650	2,700,000	2,698,650
Revenue stamps	7,385,600	7,534,350	7,582,950
Gas, etc.	500,850	558,900	656,100
Tobacco	14,874,300	15,184,800	15,007,950
Matches	589,950	589,950	592,650
Lottery tickets	1,923,750	2,106,000	2,215,350
Explosives	351,000	353,700	359,100
Almadón (mining town)	753,300	596,700	869,400
Linares (mining town)	78,300	116,100	93,150
Canals	179,550	174,150	209,250
Tolls	360,450	359,100	360,450
Exemption-from-military-service grants	1,773,900	1,048,950	1,958,850
Miscellaneous	3,349,350	3,069,100	2,878,200
Total	106,226,100	108,780,300	110,276,100

The shortage in receipts occurred in the revenues from landed property, farming and live stock, industry and commerce, inheritance taxes, mines, payments of national, provincial, and municipal taxes,

customs revenues, taxes on transportation of travelers and merchandise by land and sea, and tobacco.

The increases in the taxes collected include the income taxes, personal taxes, private carriages, taxes on sugar and alcohol, consular fees, excise taxes, revenue stamps, gas, electricity, and carbide of calcium, lottery tickets, proceeds of canals and rivers, and exemption-from-military-service grants, the last having yielded about \$945,000 more than in 1903.

IMPROVEMENT IN GLASS MAKING.

(From United States Consul Liefeld, Freiburg, Germany.)

The following is a clipping from the London Daily Mail of December 2, 1904, concerning a new invention which promises to revive the glass trade, inasmuch as it will render unnecessary a wait for the material to become molten and secure an uninterrupted flow of glass, and will, accordingly, allow work to be kept going day and night:

A CLEVER INVENTION TO REVIVE THE GLASS TRADE.

At an opportune moment—when the glass industry of England was going from bad to worse—a remarkable invention has just been patented which, it is hoped, will enable England to regain much of her lost trade. The small manufacturers of glass have been practically wiped out, owing to their inability to stand the strain of paying workmen for the long hours in which no work can be done.

But, to explain, the materials of which glass is composed are put in what is technically called a pot, and this pot, or crucible, is placed in a furnace. Up to the present these pots have been so fashioned that workmen have to wait eighteen hours and longer before the metal can be drawn for practical purposes. In some cases even as long a time as forty-eight hours has elapsed, and it is a common occurrence for workmen arriving in the early hours of the morning with the intention of working the metal melting in the pots over night to find that they have to wait a few hours before they can commence. All this means lost money.

The new invention prevents this loss of time, and, like all clever devices, it is simple. The inventors, Messrs. Jules Lang & Son, have thoroughly tested it, and have produced glass beautifully clear and as refined as possible. The Lang pot, by an ingenious arrangement, permits an uninterrupted flow of glass, and thus the work can be kept going day and night.

The pots used hitherto have not given the results expected of them owing to their complicated structure, and because their prime costs and cost of maintenance have been very considerable. The importance of the new invention thus lies in its continuous flow of metal, its economy, its relatively small cost and ease of construction. It also insures a fine glass or crystal, because of the facility in avoiding the entry of air while drawing off the glass.

The Lang pot holds a ton of glass, and it is placed in the furnace in such a manner that only two necessary openings—the mouth and the

arch opening—can appear. With this pot a small manufacturer will be able to hold his own against foreign competition, and the coming year should witness a great revival in the English glass industry. Without extra coal a manufacturer can produce three times as much glass with the Lang pot as with the older method.

E. THEOPHILUS LIEFELD, *Consul*.

FREIBURG, GERMANY, *December 2, 1904.*

GERMAN CITIZENSHIP.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

A Frankfort journal states that a monster petition to the German National Legislature to change the present citizenship law is circulating among Germans residing abroad. Under the existing law if a German remains abroad for ten years without having obtained the special consent of the Government authorities he loses his civil rights as a German subject and also his claim for protection.

The petition declares that no German subject should be deprived of his nationality against his will; that the petitioners look upon the present law as a slight upon them, as mortifying to their patriotic feelings, and as an unwarranted impediment to their efforts to maintain good relations with their native country, and that if a few Germans hitherto have renounced their nationality in order to evade military service, such cases should not affect all Germans abroad. The petitioners pray that those Germans who, under the action of the existing law, have become denationalized, may be restored to citizenship without being obliged to return to their native country, to comply with the stringent requirements of the naturalization law as to a long residence there, etc.

The journal, in commenting upon the petition, says that a large number of Germans abroad who have thus lost their nationality were ignorant of the law by which they lost their rights to national protection and privileges of citizenship.

The German Colonial Congress, in session in Berlin in 1902, adopted a resolution demanding a change of the present law on citizenship. It was enacted in 1870. German business and economic interests will in the future require more and more the residence of Germans in foreign countries, and this will lead to a more liberal policy regarding their prolonged stay abroad.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *December 6, 1904.*

IMPORTS INTO SOUTHERN NIGERIA.

(From United States Consul Williams, Sierra Leone, West Africa.)

I transmit an article from the West African Mail, copied from the Lagos Standard, containing a statement of the value of the principal imports or purchases of Southern Nigeria during the year 1903, which I have reduced to American currency.

In view of the recent rapid development of Southern Nigeria, and its prospective consolidation with Lagos, the "hint to British merchants and manufacturers" should be equally suggestive to American merchants and manufacturers.

HINTS TO BRITISH MERCHANTS AND MANUFACTURERS.

The purchases of Southern Nigeria in 1903 were heavy. They included earthenware, \$32,941.84; hardware and cutlery, \$302,633.03; brass and copper ware, \$13,971.72; building materials, \$46,796.26; cotton goods, \$1,437,958.29; soap, \$54,302.91; perfumery, \$8,973.83; haberdashery, \$5,469.95; beads, \$31,418.12; glassware, \$8,934.89; umbrellas, \$28,366.83; wearing apparel, \$147,192.16; chemicals and drugs, \$33,997.37; cigars and cigarettes, \$15,592.27; wines, \$28,712.35; kerosene and other lamp oils, \$41,735.10; salt, \$157,781.66; sugar, \$16,794.29; unmanufactured tobacco, \$343,472.70; aerated waters, \$20,220.30; whisky, \$37,515.85.

JOHN T. WILLIAMS, *Consul*.

SIERRA LEONE, WEST AFRICA, *November 29, 1904.*

TRADE OF DUTCH INDIES IN 1903.

(From United States Consul Rairden, Batavia, Java.)

GENERAL BUSINESS CONDITIONS AND FOREIGN TRADE.

In spite of the favorable outlook at the beginning of the year 1903, business in the Dutch Indies fell off after the first six months, and December closed one of the most unprosperous years that have been experienced in this colony for some time. Probably the principal cause was the poor sugar crop, which was the smallest for some years past, consequently there were many poor natives out of employment. While in some parts of Java the rice crops were good, in other parts they were a complete failure, which also caused much poverty among the natives. The conditions here depend entirely on the success or failure of the crops.

While the imports fell off in 1903, there was a slight increase in the exports, though not by any means a satisfactory one. The total value of the imports was \$81,589,132 in 1902, and \$68,952,343 in 1903.

showing a decrease of \$12,636,789. The total value of the exports was \$106,719,537 in 1902 and \$107,692,298 in 1903, an increase of \$973,448.

PUBLIC SAFETY AND HEALTH.

Throughout the year this colony has been free from any serious trouble, although the natives in Achin, Sumatra, are not wholly subdued. Most of the country, however, is now peaceably under the Dutch rule. Djambi, in East Sumatra, has also been brought successfully under the Dutch Government during the past year, and no further trouble is anticipated from the natives there.

The health of the colony during 1903 has been exceptionally good and no epidemics of any kind have been experienced. In October, 1903, the waterworks at Surabaya were completed, and since that time there has been a marked improvement in the health of that city. The water is led from the mountain Ardjoeno to Surabaya in iron pipes (most of which were imported from the United States), the length of the main being some 35 miles. The height of the highest reservoir being about 600 feet, no pumping installation is required. The price of water at Surabaya for householders is 10 cents a tun, and it is supplied to shipping at 40 cents a tun.

TEA CULTURE AND EXPORT.

The cultivation of tea in Java is steadily increasing and it has been found profitable in the past year. Coffee cultivation in many parts of the Batavia and Preanger districts (two of the richest districts of Java) is gradually giving way to the cultivation of tea. In the latter part of 1903 one of the large tea firms of London established an agency in this city and now buys direct from the planters.

During the year the total shipments of tea from Java amounted to 21,288,441 pounds, valued at \$2,341,728, while those of 1902 amounted to 15,604,538 pounds, valued at \$1,702,313, an increase of 5,683,903 pounds and \$639,415. Of this total there were shipped to Amsterdam 12,653,582 pounds, valued at \$1,391,894; to London 7,225,680 pounds, valued at \$794,825, and to the United States only \$327 worth, which is a very poor showing, and even below the value of the exports in 1902. Most of the tea used for local consumption is this Java tea. The average price for this article in 1903 was about 11 cents a pound.

IMPORTANT ARTICLES OF IMPORT.

BEER.

Trade in beer has increased slightly during the year, the value of the imports from the United States increasing from \$7,600 in 1902 to \$8,200 in 1903. Considering that this beer still remains the favorite,

it is rather surprising that the importation does not increase more rapidly. American beer is now retailing at \$9.20 a case, and if in quantities of 6 cases or more at \$8.80. When it is shown that the total imports of beer amount to about \$464,560 a year it appears that we should be able to put more of the American article on the market. A representative of one of our large American breweries visited Java during 1903 for the purpose of doing business in American beer, but unfortunately he was unable to induce any of the firms to take up this business, in consequence of the prices being too high for competition with the Dutch and German beers.

BICYCLES.

I am glad to report quite an increase in the importation of American bicycles, the value of the imports in 1903 being \$4,180, against \$1,860 in the previous year. The reason for this increase is principally the establishment in this place of a new firm which has imported many American machines of cheap make, which have been selling at about \$30 and \$40 each. I can not say that I approve of our makers sending this class of machines. I will admit that they sell quickly, but they break up very quickly too, and the single tube tires are not suitable for this climate. In order to dispose of about one-third of the stock of these bicycles mentioned, they were sold at \$20 each. I am glad to say, however, that American bicycles of first-class make are still to be had here, and are used much by those who want a good machine, the prices ranging from \$80 to \$100.

COTTON GOODS.

Cotton goods are by far the largest item of imports into the Netherlands India, but I regret to state that there is no improvement to report regarding American trade in this line. Taking this item under "dry goods," as specified in government statistics, one finds a very encouraging increase in the imports of American articles, and it will be seen that these imports in 1903 amounted to \$9,080, against \$4,682 in the previous year. But under the item "cotton goods," none at all are reported as imported from the United States, but from other countries are reported the following amounts: Holland \$7,215,032, Great Britain \$6,416,246, Italy \$246,588, Germany \$35,242, France \$21,671, Switzerland \$10,491, Straits Settlements \$534,777, other countries \$45,583; total, \$14,525,630. I believe, however, that the imports given as from the Straits Settlements are really from the United States and Great Britain.

Speaking to one of the large "piece goods" merchants some time ago, and asking him the reason why the United States, a cotton-growing country, could not get a part of the cotton-goods trade here, he remarked that our prices were much higher than the European prices.

and that the manufacturers in the United States had not as yet turned out the article required for this market. Until the American manufacturer is prepared to manufacture cotton prints to suit the demand he can not expect to get any quantity of his goods on this market. If some of our merchants or manufacturers interested in this line really wish to do business here they ought to send a capable man to Java to ascertain exactly the kind of article required for the market.

TRADE WITH THE UNITED STATES.

Trade with the United States in both imports and exports was very poor, the former being nearly \$110,000 below the imports of American goods in 1902, and the latter being \$3,498,323 below the exports to the United States in the previous year. The great falling off in sugar exports explains pretty well the decrease in the total exports to the United States for the year, but it is not so easy to understand why the imports from the United States should decrease. One of the leading merchants in this place remarked that the Americans wanted big prices for their goods while they were unwilling to pay good prices for Java products. This is partly correct, and I have noticed it more during the past year. The American dealers do not put first-class articles on the market here and compete in prices with European merchants. Much better prices have been realized the past year by sellers of Java products, especially sugar, in other markets than in the United States, and consequently the bulk of the trade has gone elsewhere.

Toward the close of the year there was a marked improvement in the packing of goods arriving from the United States. To ascertain this improvement I have requested importers of American goods to notify me when receiving shipments from America, and further to let me know in what condition they were received. In 1901 and 1902 I examined different lots of goods received from the United States and found some in a very bad state indeed. I reported accordingly to the importers, stating the facts, and in some cases the sellers made good the loss, while others have refused to do so.

This state of affairs, which could not continue if our dealers wished to do any business whatever here, I am glad to report has improved, and during the past year only two cases of poor packing were brought to my notice. I have written direct to the sellers of these goods, strongly recommending that they arrange the matter to the satisfaction of the buyers. In one instance I believe the unpleasant affair was settled so that the buyer lost nothing by the transaction, but he has refused to order other goods from the United States. I have not ascertained how the other question was settled by the sellers at home, but I know that the buyer here disposed of the article at a big loss to himself.

American representatives of different firms have visited Java during the year and have obtained cash orders from their samples, but when the goods arrived here some four months afterwards the buyers declared they were inferior to the samples shown. The system here for years has been for merchants to buy from Europe on credit (often three months), and they object to buying goods from American dealers, to whom they often have to pay cash months before the goods are delivered, when they can get the same kind of goods on credit.

These are, I believe, the principal reasons why our trade with this part of the East does not increase as it should.

AMERICANS IN THE DUTCH INDIES.

At the close of the year there were four American firms in Java doing a successful business, three having their head agencies in this city, and one in Surabaya. Including children, there were sixteen Americans residing in the Dutch Indies at the close of the year. I regret to report that many destitute Americans (according to their claims) have found their way to Java during the past year, and have caused much trouble to the local authorities as well as to this consulate.

B. S. RAIRDEN, *Consul*.

BATAVIA, JAVA, *October 28, 1904.*

FORMOSA'S TRADE IN 1903.

(*From United States Consul Fisher, Tamsui, Formosa.*)

The total trade of the island of Formosa in 1903 amounted to \$21,301,920, which is an increase over that of the preceding year of \$1,102,947, or 5 per cent, and the largest since the occupation of the island by the Japanese. This increase is due to the trade via and with Japan; in fact, the trade with foreign countries, amounting to \$10,881,645, shows a decrease of \$1,030,220, or 9 per cent, while the trade with Japan, amounting to \$10,420,275, shows an increase of \$2,132,167, or 26 per cent.

These figures do not fully represent the trade with foreign countries, as many of the importations shown as coming from Japan are, in reality, reexportations from other countries, principally the United States, Great Britain, and Germany. It is probable that 20 per cent of Japan's importations belong to this class, among the items of which are cotton and woolen goods, machinery, machines and engines, iron goods, bicycles, scientific instruments, watches and accessories, tinned provisions, toilet articles, trimmings, and wines and liquors. Many other imports from Japan are manufactured from raw materials from other countries, such as lower-grade cotton goods, cigarettes, flour, and leather goods. Of the exports to Japan, practically all the tea,

the larger portion of the camphor, and some of the sulphur shown in the customs returns were reexported to the United States.

TRADE WITH CHINA.

The trade with China is larger than that with other foreign countries, but, owing to the nature of the trade, the proximity of China to the island, the fact that commodities are largely transported by sailing junks, and the cheapness of labor in production and manufacture, there appears to be little opportunity for successful competition by other foreign countries in much of this trade. The total value of exports to China amounted to \$1,159,256, and of imports from China to \$2,862,402.

TRADE WITH UNITED STATES.

In 1903 the United States supplied 89 per cent of the flour imported into the island, against 85 per cent in 1902; the remainder, with the exception of insignificant amounts from Great Britain and China, came from Japan, and was the product of the Nagasaki Roller Flour Mills. Of the kerosene imported during 1903 the United States supplied 71 per cent, Russian Asia 18 $\frac{1}{2}$ per cent, Japan 8 $\frac{1}{2}$ per cent, Dutch India 1 $\frac{1}{2}$ per cent, and Russia one-sixth per cent. The imports of 1902 were divided as follows: United States, 78 $\frac{1}{2}$ per cent; Dutch India, 14 $\frac{3}{4}$ per cent; Russian Asia, 5 $\frac{1}{4}$ per cent; and Japan, 1 $\frac{1}{2}$ per cent. The petroleum interests of Russian Asia and Dutch India have been making efforts to increase their sales in Formosa, and lately the oil fields in the island have been receiving some attention. The most promising of these fields are in Byoritsu and Bانشoryo prefectures. Several wells have been bored, and the question of installing a refinery has had some consideration. I am informed that the oil flowing from these wells is of very good quality, but until much more capital has been invested it is not probable that the output will greatly affect importations from abroad.

The importation of ginseng during 1903 shows an increase over that in 1902 of 91 per cent. The United States supplied 39 $\frac{3}{4}$ per cent, Korea 39 $\frac{1}{4}$ per cent, and China 21 per cent of the imports of 1903, against 41 per cent, 30 $\frac{3}{4}$ per cent, and 28 $\frac{1}{2}$ per cent, respectively, in 1902. The importation from the United States of steam engines and machinery shows a marked increase over that of 1902. Some of the engines and machinery reaching this island are reexported from Japan, and are not included in the import statistics. From such information as I am able to obtain from private sources I am led to believe that about 20 per cent of the imports of this class of goods from the United States reach Formosa in this manner. While the importation of tinned provisions from the United States is shown by the customs returns as insignificant, the sale of those goods in the island is considerable.

The dealers do not make direct importations from the United States, preferring rather to replenish their stocks in small quantities at a time from distributors at Hongkong or in Japan, and the goods, when arriving, are declared at the customs as originating at those places.

If the reexportation of oolong tea at Amoy to the United States is considered, that country is by far the largest purchaser among the foreign countries of Formosa's products, receiving one-half of the exports to foreign countries, and more than one-fourth of the total exports when those to Japan are included.

The following tables show the extent of Formosa's trade with the United States in 1903:

Exports declared from Formosa for the United States.

Articles.	Quantities.	Values.
	<i>Pounds.</i>	
Tea, oolong	5,357,045	\$786,699
Camphor, refined, B	1,512,200	434,864
Sulphur	1,562,667	13,146
Total		1,234,709
Oolong tea reexported at Amoy to the United States, approximately		2,600,000
Total exports reaching America		2,834,709

Imports into Formosa from the United States.^a

Articles.	Quantities.	Values.
Oil, kerosene	gallons.. 2,817,640	\$312,693
Flour	pounds.. 9,696,813	192,936
Ginseng	do. 7,721	27,018
Steam engines and machinery		17,364
Waxes and lubricating oils		4,687
Comestibles, other than flour		1,654
Toilet articles		302
All other articles		4,078
Total		561,314

^a Prepared from customs returns.

TRADE WITH GREAT BRITAIN, GERMANY, FRANCE, AND HONGKONG.

While the customs returns do not show any exports to Great Britain, about 20 per cent of the total exports of camphor in 1903 were trans-shipped at Hongkong, and some 10,000 half-chests of oolong tea were reexported from Amoy to England.

Imports from Great Britain in 1903 amounted to \$847,388 and show an increase of nearly 15 per cent over those of 1902. This increase is due to the large importation of rails and fittings and materials for bridges and buildings for use by the government, and of cotton goods, of which the imports, notwithstanding the enormous growth of trade with Japan in cotton textiles, show a substantial increase over those of 1902.

The only item of any consequence of Formosa's products reaching Germany is camphor, transhipped at either Japanese ports or Hongkong. The amount is somewhat larger than that reaching Great Britain. The imports of \$63,458 are 11 per cent more than in 1902, which is due to increases in the imports of woollen and worsted cloths and yarns.

Although there are no direct exportations to France, that country receives about the same amount of Formosan camphor as does Great Britain. The imports from France during 1903, as shown by customs returns, amounted to \$11,542.

Of the \$1,282,373 total exports to Hongkong, the camphor, which amounted to 3,385,016 pounds, valued at \$1,178,382, was practically all transhipped to Europe, while the tea went to Singapore and the Straits Settlements, and the sulphur to Canton. The imports were valued at \$73,312.

TRADE WITH JAPAN.

The island's trade with Japan during 1903, amounting to \$10,420,275, shows an increase of 26 per cent over that of 1902; the exports, amounting to \$4,845,271, show an increase of 31 per cent, and the imports, amounting to \$5,575,004, an increase of 21 per cent. The increase in exports is due to the large shipment of rice to Japan, which was, roughly, double that of the year before. The export of sugar shows a decrease of 31 per cent, and that of camphor a decrease of 6 per cent. The principal items of import showing increases since last year are cotton yarns and tissues, 37 per cent; cigarettes, 52 per cent; timbers and boards, 21 per cent; cement and lime, 31 per cent; matches, 31 per cent; oils and waxes, 240 per cent; machinery, machines, and engines, 132 per cent; beverages and comestibles, 30 per cent.

TRADE WITH OTHER COUNTRIES.

The trade with other countries was made up of \$896 of exports to British India and \$945,226 of imports, of which the larger part was opium from British India and unspecified countries, distributed as follows: British India, \$408,316; Russian Asia, \$81,991; Australia, \$55,643; French India, \$39,206; Siam, \$37,469; Belgium, \$26,897; Korea, \$26,851; Philippines, \$14,658; Holland, \$8,521; Dutch India, \$5,931; Austria, \$4,375; other countries, \$235,368; total, \$945,226.

FRED D. FISHER, *Consul*.

TAMSUI, FORMOSA, *October 31, 1904.*

LIGHT AND POWER PLANT AND SUBURBAN RAILWAY IN SANTIAGO DE CUBA.

(From United States Consul Holaday, Santiago de Cuba.)

There has been organized in this city a joint stock company called the Compañía Eléctrica de Santiago, with a capital stock of \$300,000 and an authorized bond issue of \$300,000 additional. Mr. José Marimon is president, and Mr. Eduardo J. Chibas vice-president and managing director. The company operates under a concession given by the president and secretary of government of the Republic and a charter granted by the municipality of Santiago de Cuba.

The company proposes to build immediately a plant to supply light and power to private consumers and later to construct a street and suburban railway. The following contracts have been let: To the Babcock & Wilcox Company, of New York, for supplying three boilers of 500 horsepower and one steel smokestack 110 feet high; to the Buckeye Engine Company, of Salem, Ohio, for supplying two stationary engines of 235 horsepower each; to the General Electric Company, of New York, for supplying all the electrical machinery necessary for the equipment of the plant.

R. E. HOLADAY, *Consul.*

SANTIAGO DE CUBA, *December 21, 1904.*

GERMAN ELECTRICAL INDUSTRIES.

(From United States Consul-General Guenther, Frankfort, Germany.)

The published statement of last year's business operations of the General Electrical Company, of Berlin, shows a marked improvement. The gross profits were 10,439,000 marks (\$2,484,482), against 6,984,000 marks (\$1,662,192) in the preceding year. The number of employees was 27,487. The company declared a dividend of 9 per cent on its share capital and carried large amounts over to reserve funds and to payments to directors and to benevolent endowment funds for employees.

The company has a turbine manufacturing department which works on American designs, and has also established a department for making automobiles which has already turned out a large number of autos for passenger and freight traffic. The business lookout is excellent, as the company has orders for a long time ahead at very remunerative prices. The report of this company may be accepted as an indication of a general improvement of Germany's electrical industries.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *December 6, 1904.*

WINTER DISTRESS REMEDIES IN GERMANY.

Under date of November 11, 1904, the American consul at Freiburg, E. Theophilus Liefeld, transmits the following extract from the London Daily Mail of November 10 relative to the manner of providing against winter distress in Cologne and other cities in Germany:

In Cologne, as elsewhere, the winter brings with it a dearth of work and consequent distress among the workers, but there a man is enabled to insure himself against falling out of employment. In a report which Mr. D. F. Schloss has presented to the board of trade this system is fully described.

The Cologne office deals with men, skilled and unskilled alike, of 18 years and over, who must have resided in the town for a year. Each insurer pays a weekly premium, which now stands at 3½d. (7 cents) a week for unskilled and 4½d. (9½ cents) a week for skilled workmen, and this premium must have been paid for thirty-four weeks. The insurer is then eligible for relief if he loses his work through no fault of his own between December and March, but if work offers, at a rate of pay not less than that which he received previously, he must take it. The relief given is 2s. (49 cents) a day for the first twenty week days, and 1s. (24 cents) afterwards up to eight weeks—sufficient, that is, to avert the worst consequences of unemployment, but not enough to make fraud attractive.

The number of men who insured themselves during 1903-4 was 1,624, of whom 1,105 drew the allowance for varying periods. Without a grant from the municipality and outside help the premiums paid would have been insufficient to cover the amounts granted to insurers; still, of the total relief granted to men out of work the men themselves paid 43 per cent.

Germany is the home of sociological experiments, and this report contains some interesting notes on labor colonies. That in Berlin in particular is noteworthy. A man here is debited with 5s. 3d. (\$1.28) a week for board and lodging, and this sum is deducted from his wages. In some cases a "colonist" has made more than a pound (\$4.86) a week.

Relief works in Germany are undertaken by towns; the labor provided is generally road making, navvies' work, street cleaning, and the like, and the average wage per day is in the neighborhood of 2s. 3d. (55 cents). There are public registries, and their mission is to keep tally of the labor market, so that a vacancy and a man may never fail to come together.

ELECTRICITY AND BREAD.

'From the "Kölnische Zeitung" of November 29, 1904, transmitted by United States Consul Bartleman, Seville, Spain.'

The power of the electric current to decompose certain substances in a singular way has led to an important development of electrochemistry. In this connection experiments have recently been made in Paris, seeking an improvement in bread making.

Laboring under the mistaken impression that the whiteness of wheat bread determines its quality—that the whiter the bread the better—the Parisian public has for years been growing more and

more exacting on this score, consequently the fineness of grain flour has been gradually approaching a limit. The public has, as a consequence, received a less nutritive food, it being a known fact that the core of the wheat grain, which is the chief constituent of bread, while producing the whitest flour, at the same time contains the smallest amount of albumen and is thus least nutritious.

There has recently been raised the hope of obtaining a whiter bread by aid of electricity, for which purpose the flour was brought in contact with electrified air, whose ozone possesses efficacious bleaching properties. A report to the Academy of Sciences at Paris on the result of an experiment with flour treated in both the ordinary way and by electricity, under similar conditions, explains that the flour subjected to electric influence was much whiter in color, but that its taste and odor were far inferior to those of flour treated by the ordinary method. The amount of phosphorus was the same in both, but the quantities of fatty and acid substances varied largely. Thus, in flour treated by electricity the fatty substances proved rancid, glutinous, and of a less yellowish color, and instead of retaining their usual aromatic, yellow state, became oxidized and partly converted into white sebacic acid, which could be dissolved in alcohol. The glutinous substances were discolored and changed.

The bread made from this flour was whiter than usual, but of inferior taste, and the experiment serves to demonstrate that electric treatment, while successfully turning flour whiter, injures it.

NOTES ON FOREIGN COMMERCE.

(From United States Consul-General Guenther, Frankfort, Germany.)

A Chinese chamber of commerce has just been established at Brussels, Belgium.

Dutch merchants have opened a chamber of commerce in London to which already 400 members belong.

A Hamburg official report states that Japan's imports for the first seven months of 1904 amounted to 205,934,000 yen (\$102,556,732) and her exports to 159,836,000 yen (\$79,598,328), showing a considerable excess over the imports and exports of the corresponding period in 1903. The increased imports have been principally American and British goods; shipments from Germany have diminished. The German export trade this year, however, is in a very satisfactory condition as regards shipments to Argentina, Brazil, Mexico, Cuba, and Venezuela.

Peru in 1903 imported goods to the value of \$18,411,000, and the exports aggregated \$18,774,000. Of the imports \$7,228,000 worth of goods came from Great Britain, \$3,767,000 from the United States, \$2,181,000 from Germany, and about \$1,000,000 each from Belgium, France, and Chile.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *December 6, 1904.*

FRUIT TREES ALONG THE HIGHWAY.

(From United States Consul Brittain, Kehl, Germany.)

One of the ways for beautifying the country in the Grand Duchy of Baden without any ultimate expense to the taxpayer is the planting of fruit trees along the Government highways. These are cherry, apple, pear, and in some places walnut trees. The trees are planted 32 feet apart along each side of the road, and when the fruit is ready for market it is sold at public auction on the trees, the purchaser being obliged to harvest it at his own expense. The amount realized from the sale of the fruit is applied toward the maintenance of the system—the propagation of young trees, their planting and cultivation, etc.

The department of the Government managing the enterprise is known as the department of “Wasser und Strassenbau.” There are two large nurseries, one near Emmendingen and one near Durlach, where the trees are grown. The total amount realized from the sale of the fruit in 1902 was 38,046 marks, or \$9,055; in 1903, 24,081 marks, or \$5,731. These were not such good fruit years as the present one, but the amount realized this year has not been reported. The cost of maintaining the system in 1902 was \$4,590 and in 1903, \$4,980. The price realized for apples was 1½ cents a pound, for pears 2½, and for cherries 2½ cents per pound.

JOSEPH I. BRITTAİN, *Consul*.

KEHL, GERMANY, *December 6, 1904.*

HYGIENE AND SAFETY OF FACTORY OPERATIVES IN FRANCE.

(From United States Consul Atwell, Roubaix, France.)

On November 29, 1904, the President of the French Republic issued a decree concerning hygiene in factories and the protection of operatives. This decree was adopted upon the proposition of the minister of commerce after consultation with the committee on public hygiene and the committee on arts and manufactures. As the provisions of this decree are of the greatest importance to manufacturers in France, they will undoubtedly afford instructive reading in our own country. It is for this reason that I append a translation in full of the decree. While this document annuls all former decrees on the same subject, it retains many provisions heretofore in force and adds others. The new provisions are in italics.

DECREE OF NOVEMBER 29, 1904, ON HYGIENE AND SAFETY OF WORKMEN.

ARTICLE 1. All places used for manufacturing purposes, as laid down in article 1, law of June 12, 1893, modified by law of July 11,

1903, shall be kept absolutely clean. The floors shall be thoroughly cleaned at least once a day, either before opening or after closing the factory, but never during working hours. The cleaning shall be either by washing with brushes or wiping with damp cloths, if the condition of the product in course of manufacture or the nature of the flooring forbid scrubbing. Walls and ceilings shall be cleaned frequently; the coating shall be renewed as often as necessary.

ART. 2. In buildings where corruptible organic matter is used, the ground shall be impermeable and smooth; the walls shall be coated so that they may be thoroughly washed. Ground and walls shall be washed, when necessary, with a disinfectant. A thorough cleaning with a disinfectant solution shall be made at least once a year. Putrescent residuum must be removed immediately from places in which operatives are working, *unless this residuum be placed in hermetically closed metal recipients, which shall be emptied and washed at least once a day.*

ART. 3. The air of workshops and of all other localities set apart for workmen shall be free from gas emanating from sewers, ditches, cesspools, privies, or any other source of infection. In establishments which turn their waste water into a public or private sewer, transmission of impurities from sewer to building shall be cut off by means of a hydraulic interceptor, which shall be cleaned and thoroughly washed out at least once a day. *Sinks shall be of well joined, impermeable material; they shall have an incline toward the drain pipe, and shall be constructed so that they shall be odorless.* Work on wells, gas pipes, smoke pipes, privies, vats, or any apparatus emitting poisonous gas shall be begun only after proper ventilation of the premises. Workmen engaged in this work shall be provided with safety belts.

ART. 4. Privies shall not communicate directly with closed places where workmen are employed. They shall be lighted and so constructed that they shall emit no odor. The flooring and walls shall be impermeable; they shall be painted in light colors. There shall be at least one closet for fifty persons, and urinals in sufficient number. No receiving well or anything of like nature may be dug without permission from the proper authorities and under conditions prescribed by them.

ART. 5. Manufacturing places shall never be crowded. *The volume of air shall be seven cubic meters^a per head. During three years from the promulgation of this act the volume may be only six cubic meters. The volume of air shall be at least ten cubic meters per head in all stores, shops, and offices open to the public. A notice on the wall of every workshop shall indicate its capacity in cubic meters.* Closed places set apart for work shall be well lighted and in winter properly heated. *They shall have windows or other openings with movable sashes connected directly with the outside. There shall be sufficient air to prevent unduly high temperature.* These localities, their dependencies, and particularly passages and stairways, shall be properly lighted.

ART. 6. Work places shall be cleared of dust as well as of poisonous or disagreeable gas as it is produced. Funnels with whirling tops or any other efficient apparatus shall be provided for the escape of steam, gas, and light dust. Dust arising from mill stones, thrashing and crushing machines, and all other mechanical apparatus shall be carried

^a One cubic meter=35.316 cubic feet.

off by means of drums communicating with a strong outward-drawing current. For heavy gases, such as the vapor from mercury and carbon disulphide, ventilation shall be by means of an undercurrent, and tables and work apparatus shall be in direct communication with the ventilator. Pulverization of irritating and poisonous substances and similar operations, such as sifting and packing, shall be done by machinery in closed apparatus. The air of workshops shall be renewed so as to secure a healthful condition to workmen.

ART. 7. In all factories indicated by Government decree based upon the decision of the consulting committee on arts and manufactures, all steam, as well as unhealthful and disagreeable gas, shall be condensed and all dust destroyed.

ART. 8. Workingmen and employees shall not take their meals in localities used for work. *Permission to eat in such places may be given in case of necessity after examination by the division inspector under the following conditions:* 1. *That no poisonous material is used in the work on hand.* 2. *That no poisonous or unhealthful gas or dust emanates from the work.* 3. *That all other hygienic conditions are considered satisfactory.* Employers shall provide their workmen with means of assuring personal cleanliness, cloakrooms with wash basins, as well as proper drinking water.

ART. 9. When work is suspended the building shall be aired.

ART. 10. Steam, gas, and electric motors, hydraulic wheels, and turbines shall be accessible only to those charged with working them. They shall be separated from other works by barriers or walls. Passages between machines run by these motors shall be at least eighty (80) centimeters (31.5 inches) wide; the ground between shall be level. Stairways shall be solid and provided with strong railings. Wells, traps, tubs, basins, and reservoirs of corrosive or hot fluid shall be provided with solid walls or guards. Scaffolding shall be provided on all sides with stiff guards 90 centimeters (35.4 inches) high. *Flying bridges for loading and unloading vessels shall be rigid and provided with guards on either side.*

ART. 11. Passenger and other elevators shall be in a closed shaft; the entrance to elevators shall close automatically at each floor or gallery and the construction shall be such that nothing can fall from the elevator into the shaft. Passenger elevators shall carry only one-third the weight of freight elevators; they shall have proper brakes and other arrangements for safety. The machinery for lifting shall be marked with the maximum weight that may be carried.

ART. 12. All mobile, projecting, and other dangerous parts of machines, such as connecting rods, wheels, belts, cables, gearing, cylinders, friction cones, or other organs of transmission known to be dangerous, shall be provided with proper covering or gratings. Machinery with sharp instruments turning rapidly, such as saws, planes, scissors, and other like implements, shall be so arranged that workmen at their post can not touch them by mistake. Except when the motor is not running, belts shall always be handled by machinery that puts them in place, thus avoiding direct contact with the hand. Work shall be so arranged that no one workman shall be constantly employed in the immediate vicinity of fly wheels, grindstones, or any other machinery of great weight or speed.

ART. 13. Machines shall be started and stopped upon a well-known signal.

ART. 14. The stoppage of a machine shall be under the control of the operative of the machine. Overseers, heads of workrooms, and operatives of machines, looms, etc., shall have within reach means to stop the motor. Each loom, machine, etc., shall be so arranged that its operator may disconnect it from the motive power.

ART. 15. Arrangements should be provided for cleaning and oiling machinery in motion with the greatest possible regard for the safety of the workmen. In repairing any part of a machine, it should be stopped by a proper wedging of its coupling or fly wheel; the same rule applies to cleaning that requires the arrest of the mechanism.

ART. 16. The exits on yards, vestibules, stairways, and other dependencies of the factory shall be provided with doors opening outward. They shall be in sufficient number to permit the rapid clearing of the building; they shall never be obstructed by the deposit of goods or any other object. Stairways shall be constructed so that every part of a building containing workrooms may be evacuated immediately. In establishments of several stories, a fireproof stairway shall, if safety demand it, be ordered by decision of the minister of commerce after consultation with the committee on arts and manufactures. Receptacles for oil or petroleum for lighting purposes shall be kept in separate places and never in the neighborhood of stairways.

ART. 17. Dynamos shall be electrically insulated. They shall never be placed in a workshop where explosive bodies, detonating gas, or inflammable powder are used or produced. Electric conductors in the open air may remain exposed; in this case they shall be carried on china or glass insulators, and shall be separated from all metal substances, such as gutters, pipes, etc. In workshops open conductors for transmitting the current shall be kept away from the wall beyond reach of the hand and properly insulated. Other conductors shall be protected by insulating covering. Every precaution shall be taken to prevent the heating of conductors. This shall be done by cutting the circuit and other like means.

ART. 18. Operatives, both men and women, shall wear tight-fitting garments, nothing floating.

ART. 19. *A ministerial decree shall decide for each establishment, according to its nature, the articles of the present decree that shall be posted in the building.*

•ART. 20. *The minister of commerce and industry may, by a decision based on the report of the inspectors of labor and after advice of the consulting committee on arts and manufacture, accord for a certain time either temporary or permanent dispensation from provisions contained in articles 1, 5, 9, and 10 in cases when their enforcement is practically impossible and when the health and safety of operatives are assured under conditions equal to those stipulated in the present decree.*

ART. 21. Exception being made of the special delay provided by article 5 and future delays that may be accorded by the minister by virtue of article 20, all changes demanded by the present law shall be made within one year from its promulgation. This applies to all establishments not mentioned in the law of June 12, 1903.

ART. 22. The decrees of March 10, 1894, July 14, 1901, and August 6, 1902, are annulled.

W. P. ATWELL, *Consul.*

ROUBAIX, FRANCE, *December 13, 1904.*

FORMOSA'S TRADE IN THE FIRST SIX MONTHS OF 1904.

(From United States Consul Fisher, Tamsui, Formosa.)

GENERAL TRADE.

Formosa's total export and import trade in the first six months of 1904, which amounted to \$11,101,797, is 7 per cent larger than in the corresponding period of 1903; that with foreign countries, which amounted to \$5,253,722, increased by 3 per cent; and that with Japan, which amounted to \$5,848,075, increased by nearly 11 per cent. The exports to foreign countries, amounting to \$2,114,707, show a falling off of 7 per cent. This decrease can be accounted for by the smaller exportation of tea up to July 1 of this year.

The imports from foreign countries, which amounted to \$3,139,015, increased by 10½ per cent. This increase is due to the large importation of opium (under Government monopoly) from British India and other countries. If this item be excluded from the imports of both periods, those for 1904 show a decrease of 6 per cent. The principal items showing decrease when compared with the importations for the same period of 1903, and the percentage of decrease, are cotton tissues, Chinese, 55 per cent; hogs, 35 per cent; flour, 32 per cent; China-grass tissues, 30 per cent; rice, 21 per cent; shirtings, white, 18 per cent, and China-grass and cotton tissues, 10 per cent. The items showing increase, other than opium, with percentages, are sugar, B, 900 per cent; timbers, 37 per cent; cotton satins, 14 per cent, and kerosene oil, 8 per cent.

In the exports to Japan an increase of 22½ per cent is noticeable. The increase is most marked in the items of camphor and sugar, while the item of rice shows a considerable decrease. The imports from Japan show a decrease of a little more than 2 per cent. It is difficult to locate this decrease in any particular items.

TRADE WITH THE UNITED STATES.

The value of exports declared for the United States at this consulate during the first six months of 1904 was \$634,944, against \$359,710 during the same period of 1903. This increase is due more to the increase of direct shipments to the United States from Kilung since the improvement of that harbor than to an actual increase in the volume of exports to America. Heretofore most of these exports were transhipped and declared at Amoy, Hongkong, and ports in Japan.

The imports into Formosa from the United States amounted to \$290,734, an increase over those of the same period of 1903 of 13 per cent. Kerosene oil shows an increase of 45 per cent, and flour a decrease of 32 per cent. The United States furnished practically all

the flour and 89 per cent of kerosene oil imported into the island. The principal items of import from the United States in the period were: Kerosene oil, \$184,507; flour, \$68,132; engines and machinery, \$13,415; ginseng, \$10,497; railway materials, \$2,251; iron and steel, \$1,754; paraffin wax, \$1,429; all other articles, \$8,749; total, \$290,734.

STEAMSHIP SERVICE.

During the early part of the year a number of the Nippon Yusen Kaisha's and the Osaka Shosen Kaisha's steamers plying on the lines between Yokohama and Kobe and Formosa were chartered for transports by the Japanese Government, and the service between Japan and this island has since been somewhat irregular, and the sailings have been less frequent. The Nippon Yusen Kaisha is now maintaining its service solely by the steamship *Satsuma Maru*, making about two sailings a month, and the Osaka Shosen Kaisha is operating two steamers of its own and one chartered steamer, the steamship *Stahlburg* (German), in this service. The two steamers of the Osaka Shosen Kaisha in the weekly service between Tamsui and Hongkong, via Amoy and Swatow, were replaced by two chartered vessels, and that service is maintained with some regularity.

FRED D. FISHER, *Consul*.

TAMSUI, FORMOSA, *October 31, 1904.*

MINES AND MINERALS OF CANADA.

(From United States Consul Holloway, Halifax, Nova Scotia.)

The report on the mining industry of Canada by the director of mines is comprehensive and full of interest. Each working mine is dealt with, the property described, and its prospects indicated.

The report covers not only the precious and economic metals, but also the nonmetals, such as cement and petroleum. The total mineral products of the year were valued at \$12,870,593, and the wages paid amounted to \$4,222,386. Of the total value, \$7,628,018 represents products of the nonmetallic class and \$5,242,575 metallic products. The total production of gold was 10,383 ounces, valued at \$188,036; the industry gave employment to 493 persons, who were paid in wages \$245,490. Including the cost of supplies it required an expenditure of almost \$2 to extract \$1 worth of ore. The same story is told of silver mining: the total quantity produced was 16,688 ounces, valued at \$8,949, and the wages paid out, \$8,000. The production of lead was still more unprofitable, although restricted. The amount mined was 25 tons, valued at \$1,500, at a cost of \$5,189. Copper and nickel properties on the whole gave excellent returns. The value of the products was

\$3,215,794 and the wages paid aggregated \$872,302, leaving a large margin for supplies and a satisfactory profit.

In the nonmetallic class a good showing is made by petroleum and cement. The wages paid for the production of petroleum amounted to \$165,700, while the value of the product was \$1,586,674. The expansion of the cement industry is a marked feature of the mineral development of the province. The rapid growth in output is indicated by the figures supplied in the report. In 1899 the increase was 45 per cent over 1898; in 1900 it was 38 per cent over 1898; in 1901 it was 14 per cent; in 1902 it was 49 per cent over the previous year; and in 1903 there was a further increase of 33 per cent over 1902. Notwithstanding this remarkable expansion there was imported in the year ended June 30, 1903, 2,572,088 hundredweight, valued at \$901,063, upon which the duty paid was \$271,004. As the uses to which cement is put have multiplied and the industry grown the price has fallen. It was \$2.50 a barrel in 1891, and \$1.70 in 1903. The erection of new plants is proceeding in Canada at a rate that the director of mines seems to think promises an era of overproduction in Ontario, with attendant curtailment or extinction of profits. This is a warning that investors will be inclined to heed, for since the capacity of the present plants, if fully exercised, would seem to be nearly if not quite sufficient to supply the demand the success of the industry will depend upon the discovery of new uses for the product.

W. R. HOLLOWAY, *Consul-General*.

HALIFAX, NOVA SCOTIA, *December 21, 1904.*

GRAPHITE MINE IN QUEENSLAND.

(*From United States Consul Godling, Newcastle, New South Wales.*)

The variety of the minerals found in Queensland is remarkable. During the past twelve months a mine of graphite has been successfully worked on one of the slopes of Mount Bopple, about 3 miles from the Netherley station, on the north coast line, and within 35 miles of the seaport of Maryborough. The material found is of very good quality, and the output is likely to be considerable. At a depth of 32 feet 35 tons of graphite were obtained in cutting through a large mass, and on continued sinking operations fine seams varying from 1 foot to 6 feet have been reached. Several shipments have been made to the paint manufacturing firms in the south, and have brought about \$50 a ton. Trial specimens have also been sent to some large firms in England and Germany. A ready market will probably be found for the output, as graphite mines are not numerous.

The famous mines in Cumberland, England, worked as far back as 1550, have given out, and the main supply of British and American

graphite manufacturers now comes from Ceylon. The crude ore, in which there is a mixture of silica and sulphur, is sent to the manufacturers for purification and preparation for trade purposes. Graphite deposits are not common; they are found, it is said, only where carbonaceous rocks are in direct contact with igneous rocks. Elaborate machinery is not required in mining it; the chief difficulty is from its greasy, slippery nature, which makes very careful timbering and handling necessary. It is much used in the production of noncorrosive paints and crucibles for smelting gold, in iron foundries, and for lubricants and household purposes. The price here of graphite paints, containing about 35 per cent of pure graphite, has been as high as \$390 a ton; graphite for molding purposes has brought as much as \$224 a ton in the Australian foundries, and some of the crucibles for gold have cost at the rate of \$975 a ton.

F. W. GODING, *Consul*.

NEWCASTLE, NEW SOUTH WALES, *November 11, 1904.*

HIGH-SPEED RAILWAY PROPOSITIONS IN GERMANY.

(From *United States Consul-General Mason, Berlin, Germany.*)

Ever since the experiments of 1902-3 with high-speed electric motor cars over the specially prepared line between Berlin and Zossen were concluded and their results analyzed and recorded, the question of an electric railway for rapid service between Berlin and Hamburg has been a topic of earnest and constant discussion in the daily and technical press of this country.

The Zossen experiments demonstrated clearly that, given a straight, well-laid and well-balanced track of the best modern construction, a speed of 120 miles an hour was possible and safe. It was shown that to propel a single motor car carrying the requisite transformers and motors, with room to accommodate 60 passengers, required, for a speed of 110 miles an hour, the expenditure of 1,300 horsepower, and that this consumption of energy was increased to 2,000 horsepower when the speed was raised to 120 miles an hour, at which velocity the head-end air resistance alone consumed about 1,100 horsepower.

It was also found that in order to keep the rails and run steadily the car must be heavy and its running gear skillfully adapted to slurring over with smooth elasticity the slight but unavoidable irregularities of the track. It proved, for this reason, impracticable to use light trail cars for any speed above 80 miles an hour; at higher velocity the lateral oscillation became so great as to compromise the comfort, if not the safety, of passengers. Another point clearly demonstrated was the importance of a practically direct line. Curves,

if unavoidable, must have a radius of not less than a mile, otherwise they must be passed at a reduced speed. In other words, no steam railway of any important length now being operated in any European country, except perhaps Russia, is sufficiently straight to meet the requirements of high-speed electric service. Whether the new system be adopted sooner or later the lines will have to be resurveyed and specially built.

With these fundamental conditions clearly established, public and technical interest has been concentrated on a high-speed electric railway between Berlin and Hamburg, a distance by the present steam railway route of 177 miles, which could be shortened by a new direct line to about 155 miles. The country between the two cities is generally level and as well adapted to the construction of a high-speed line as could be found between any two large and equally distant cities in Europe. The ordinary passenger traffic between Berlin and Hamburg now includes about 1,200 persons per day, or 438,000 per annum, whose fares average 16 marks (\$3.80) each. The best steam train makes the distance in 3 hours and 32 minutes, but accommodation trains take from 5 to 6½ hours.

During the discussion of the high-speed electrical line, two definite propositions have been submitted, one by Messrs. Siemens and Halske and the other by the General Electric Company, of Berlin; both are firms of the highest rank and responsibility, whose motor cars made in friendly competition the experimental tests between Berlin and Zossen. Messrs. Siemens and Halske propose a single-track line, on which a train would be dispatched from either terminus every two hours or oftener, if found necessary, the two meeting and passing each other at the midway station of Wittenberg, and making the through run in 1 hour and 55 minutes. Such a line, equipped for service, would cost, according to the estimates submitted, 70,000,000 marks (\$16,660,000), and, in the opinion of Messrs. Siemens and Halske, such a road carrying 520,000 passengers a year, each paying 15 marks (\$3.57) for a uniform first-class fare, would earn a profit above interest and working expenses.

The proposition of the General Electric Company is for a double-track line, on which trains traveling at 100 miles an hour would make the through trip in 1 hour and 25 minutes. For that speed the road could be built and equipped for 125,000,000 marks (\$29,750,000). If a speed of 200 kilometers (125 miles) an hour were to be maintained, the road and equipment would cost 150,000,000 marks (\$35,700,000), and at the proposed rates of fare—15 marks (\$3.57) for an ordinary seat, and 5 marks (\$1.19) extra for a section de luxe—would require 850,000 passengers yearly to earn a profit over interest and running expenses. This proposition contemplates trains of from 2 to 4 cars,

according to the requirements of travel, and it is to be assumed that each car would carry its own motors and converters and be in all technical respects an independent unit.

Will the proposed Berlin-Hamburg line be built; and if so when? These are the points on which public and press opinion varies all the way from eager confidence to hopeless doubt. To build and operate such a line would reduce the present first-class double track trunk line, with its excellent equipment and terminal facilities, the property of the Prussian State, to the status of a freight railway with local passenger traffic between intermediate points. There are no important cities and comparatively few villages on the most direct steam railway between Berlin and Hamburg, so that an exceptionally high percentage of the whole is through traffic. Will the Prussian Government consent to sacrifice the bulk of its passenger business on an important trunk line, and encourage the expenditure of from \$16,000,000 to \$30,000,000, in order to enable the public to save from 1½ to 2 hours in the transit between Germany's capital and its chief seaport? There are many who gravely doubt it.

On the other hand, there is in this country, and particularly at Berlin, a spirit of lofty and enterprising ambition, which will stop at no effort or sacrifice to keep Germany in the front rank of progressive development. This spirit was especially manifest at the memorial exposition recently held in Berlin to commemorate the twenty-fifth anniversary of the founding of the Electrotechnical Society. Having at great cost and labor carried through the Zossen experiments to demonstrate what will happen when electrically driven trains are run from 100 to 120 miles an hour, it is felt to be incumbent that this heightened speed, which opens a new chapter and era in the history of transportation, shall be first carried to practical realization by German enterprise and technical ability. Having proved a most desirable improvement to be possible, it would, in the popular estimate, be an unworthy sacrifice to permit other nations to step to the front and first utilize what German experiment has made definite and plain. It is a manifestation of the virile national spirit which has been shown in the growth of the German navy, the great merchant fleets of Hamburg and Bremen, the consummately organized exhibits at Paris, Chicago, and St. Louis, and which will be content with nothing less for the Fatherland than a front place in the foremost group of progressive nations.

FRANK H. MASON, *Consul-General*.

BERLIN, GERMANY, *December 10, 1904.*

TRADE AND INDUSTRIES OF WINDSOR, ONTARIO.

(From United States Consul Hemmick, Windsor, Ontario, Canada.)

SITUATION AND INDUSTRIES.

Windsor is the only city in the county of Essex, and as the towns of Walkerville and Sandwich border upon the limits of Windsor, it is but just to consider all three as one municipality. The same streets and roads and an electric car line connect the three places, and although they are governed by distinct bodies and collect their own taxes, their citizens have so many interests in common that they are looked upon by many as one city with a population of 20,000.

Windsor has one of the best locations in the Dominion of Canada, but, on account of its distance from other cities, the manufacturers are handicapped by extra freight rates. This has proved a great drawback in enlisting capital to establish manufacturing industries here, but owing to the recent action of the government the railways will be compelled to modify their rates.

At the recent session of the Dominion Parliament, legislation was enacted which was designed to compel American manufacturers doing business with the Dominion to manufacture their goods in Canada, and Windsor is the logical location for many of these industries. The town is well adapted for manufacturers, so far as shipping facilities are concerned. The Detroit River is the open door to the waterways of the East and West, and during the summer months boats from every Canadian port call at Windsor for freight. Windsor has many attractions for residents, although there is always a shortage of dwelling houses. One great inducement for residents is the low cost of living. The city has a public (Carnegie) library, 6 public schools, 7 churches of different denominations, a great number of excursion boats on the Detroit River in summer, 50 trains daily, requiring 8 car ferries to transfer freight and passengers, 3 newspapers, a hospital, a young ladies' academy, 8 hotels, the finest mile race track in America, natural mineral wells, a splendid market, 5 banks, a savings and loan company, and not a vacant house at the present time.

The consular district of Windsor embraces one-half of the county of Essex; the consulate of Amherstburg comprises the other half of the county. The district is purely agricultural, and as the land is level it is adapted to all kinds of farming.

Windsor has the advantage of four railway lines with terminals here, and these lines tap every district in Canada, besides all the chief arteries of the United States. The railroads are the Grand Trunk, Wabash, Michigan Central, and Canadian Pacific. The town is within five minutes' ride of the city of Detroit.

IMPORTS.

The imports from the United States entered for consumption in the district for the fiscal year ended June 30, 1904, amounted to \$3,780,899, an increase of \$626,177 on the imports of 1903. Every year shows a gradual increase in these imports. Iron pipe, tubing, rails, and other manufactures of iron and steel, coal, cotton fabrics, drugs, and coal oil are the principal articles of import from the United States; woollens are about the only articles of import from Europe; the only agricultural implements imported are plows from the United States.

EXPORTS.

The exports to the United States from Windsor during the year ended June 30, 1904, amounted to \$1,231,130, an increase of \$168,575 on the exports of 1903. One of the largest distilleries in Canada is located at Walkerville, 2 miles from Windsor, and whisky valued at \$362,000 was shipped from this district to the United States during the last fiscal year. This export is increasing every year. Lumber is the next principal export from Windsor to the United States.

Natural gas, of which \$78,000 worth was exported to the United States in 1903, has been entirely exhausted and the pipes taken up. The exportation of staves at present is hardly worth mentioning, whereas for fifteen or twenty years it was a thriving industry.

ROLAND J. HEMMICK, *Consul*.

WINDSOR, ONTARIO, *December 22, 1904.*

ANGORA GOATS IN NEW SOUTH WALES.

(From United States Consul Goding, Newcastle, New South Wales.)

From 1856 to 1875 about 300 Angoras were imported from Asia Minor into Victoria and South Australia, but success seems not to have attended the efforts of the pioneers. Some of the failures were due to the fact that Angoras were tried on unsuitable country, but probably the chief factor in causing breeders to lose interest in them was the profitableness of the Merino sheep in those early days when there was such an abundance of rich grazing land available in the two States mentioned. Now the best of the grazing land is occupied and the situation is reversed.

The common goat and the Angora goat are as unlike as the wild sheep and the Lincoln. The common goat will browse and yield milk—beyond that it is worth only its skin and is looked upon as a pariah in the land of the stock raisers. Not so the Angoras; they are highly bred animals and look as well on a farm or station as any of the breeds of sheep or cattle.

The Angora goat and mohair industry in Turkey, South Africa, and the United States is a very considerable and profitable one. Asia Minor is the home of the Angora, and the rearing of the animals there has been carried on for an unknown number of generations. In South Africa and in the United States it is of comparatively modern development. British manufacturers, finding the supply of Turkish mohair insufficient for trade requirements, secured the introduction of Angoras into South Africa, and now the supply of mohair from that quarter is double the output of Asia Minor. The recent rapid development of the Angora goat industry in the United States has been brought about much as the business might develop in Australia, namely, by the stocking of bush land with Angoras for the purpose of bringing such land into condition for grazing or tilling. All Angora goat breeders do not, however, run their stock solely for preparing the land for grazing. They run goats for mohair precisely as Australian sheep breeders run their flocks for wool and mutton. Once they enter into the business they are loth to give it up.

The flock masters of Australia are now beginning to take an interest in the Angora, and mohair growing may yet become an industry of considerable importance there.

F. W. GODING, *Consul*.

NEWCASTLE, NEW SOUTH WALES, *November 14, 1904.*

FIRST AID TO THE INJURED BY BIRMINGHAM POLICE.

(*From United States Consul Halstead, Birmingham, England.*)

At the annual meeting of the Birmingham watch committee for the distribution by the lady mayoress of certificates and medallions to the city police who have passed the St. John's ambulance examination it was announced that not only have 550 policemen of various ranks within two years been awarded certificates for efficiency in first aid to the injured, but that out of the total police strength of 860 there are 818 policemen who have passed the first-aid classes. The lord mayor said that first aid had been given by policemen in over 2,000 cases since 1902, adding that on several occasions the policemen were thus instrumental in saving life.

It seems that formerly attendance at the ambulance classes was a voluntary matter, but all the policemen are now compelled to attend them and receive instruction. All police recruits are trained for the first examination in ambulance work. Afterwards they must prepare for the second and third certificates of proficiency, and must attend each year what is termed a revision class, to keep themselves up to

date and acquainted with the developments in ambulance work. The Birmingham Post remarked that the effect of this excellent system is that the senior members of the police force, who gained their certificates at some comparatively remote period, are not allowed to get rusty. The annual revision of their knowledge compels them to keep abreast of modern methods, and as every member now joining the force must follow the same line, citizens have the comfort of knowing that ere long every policeman in the city will be capable of rendering efficient first aid in time of need. The value of such a state of things was emphasized by the lord mayor, and, indeed, it is obviously a matter upon which the public may congratulate itself. It is no small advantage that in a populous center, where accidents are, unfortunately, of daily occurrence, there should be close upon a thousand stalwart and energetic men to whom a request for such assistance may confidently be made.

The police of Birmingham have already earned and received the thanks of the community for their exertions in various departments of social and philanthropic work, especially in connection with the association for the clothing of destitute children, and the new departure which the watch committee has wisely inaugurated can not but enhance the esteem in which they are publicly held. The police association for the clothing of destitute children serves efficiently not only the purpose which its title indicates, but has the very important effect of establishing a good understanding between the police and the very poor of a great city, who are thus taught that the police can really be their best friends; besides, it must counteract in the police themselves the hardening tendency of their work.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *December 20, 1904.*

SWEDISH COPPER INDUSTRY.

Under date of December 12, 1904, United States Consul Robert S. Bergh, of Gottenborg, Sweden, transmits the following translation from a Swedish commercial publication relating to the high price of copper and the outlook for working the Swedish copper mines:

Among the economic phenomena at present arresting attention is the rise in the price of copper. Sweden is largely interested in the copper industry, though the present production of copper ore in the country is not large. A part of the combined Swedish copper works have based their production on foreign raw material. This is to be deplored all the more as Sweden is the only country in Europe (Norway, Portugal, and Spain excepted) that has mines capable of a considerable copper output, although these mines are almost unworked. The

import of copper ore for the past few years has amounted to 3,000,000 to 4,000,000 crowns (\$804,000) to \$1,072,000) annually. With the large increase in the price of copper that has taken place during last week, the price being now £10 (\$18.66) a ton, the value of the import would be increased to not less than 7,000,000 to 8,000,000 crowns (\$1,876,000 to \$2,144,000).

How are we to avoid this unnecessary payment to foreign countries? Is the increase in price momentary, or will the price of copper keep steady at a high level for some time? This is a question of the greatest importance for the Swedish copper industry. If the price of copper, on account of the small supply and the great demand, will keep high, the time may have come for us to work several of the particularly important copper mines of Sweden. The market prospects are at present very favorable for the Swedish copper works. The rise in the price of the ore will probably not influence the consumption, but will be an increased tax on the countries which have to buy.

FOREIGN COMMERCE OF CUBA.

Under date of December 1, 1904, the American minister at Habana (Mr. Squiers) transmits the following translation of an article which appeared in *El Economista* of that city, showing the foreign trade of Cuba in 1903:

Merchandise imported into and exported from Cuba, by countries, in 1903.

Countries.	Imports.	Exports.
United States	\$25,708,100	\$60,089,500
Other countries of America	8,337,600	1,664,400
Total America	34,040,700	61,743,900
Germany	3,921,900	5,370,800
Spain	9,113,400	1,273,500
France	3,372,000	1,134,400
England	10,799,800	6,590,800
Other countries of Europe	1,867,500	802,300
Total Europe	29,074,600	15,171,800
All other countries	349,200	339,100
Grand total	63,464,500	77,260,800

If we compare these figures with corresponding ones for the previous year, we find slight differences in imports, but a great increase in exports. Imports from the Americas reached, in 1902, \$34,482,000. The increase in imports from Europe in 1903 was \$2,244,000. Exports to Europe have increased \$2,000,000, while exports to America increased \$11,000,000, principally on account of sugar.

The following table shows the value of imports, by groups of articles and by countries, in 1903:

Imports and exports of Cuba, by articles and countries, in 1903.

IMPORTS.

Articles.	Imported from—					Total imports.
	United States.	Germany.	Spain.	France.	England.	
Stones, earthen, and ceramic products:						
Stones and earthen.....	\$167,900	\$32,000	\$19,700	\$26,100	\$16,700	\$328,200
Schists, cements, etc.....	659,200	2,800		300	1,300	664,000
Glass and crystal.....	163,400	171,100	90,600	83,100	46,600	623,800
China, crockery, and porcelain.	58,000	109,000	127,700	56,400	69,900	444,300
Metals, and manufactures thereof:						
Gold, silver, and platinum.....	83,800	153,900	15,800	112,000	8,700	479,900
Iron and steel.....	1,178,400	326,300	69,000	117,100	849,600	2,720,900
Copper and its alloys.....	169,700	39,600	6,500	34,800	76,400	330,200
Other metals.....	54,400	38,800	27,000	12,100	28,300	186,000
Substances used in pharmacy, chemistry, perfumery, etc.:						
Simple products.....	157,300	25,900	50,800	7,600	22,700	297,000
Colors, paints, and varnishes.....	174,300	18,200	11,400	26,400	111,100	349,300
Chemical products.....	432,900	80,100	78,300	271,600	127,500	1,049,000
Oils, greases, etc.....	364,300	46,900	607,400	285,300	64,400	1,413,700
Textiles:						
Cotton.....	468,100	219,200	1,449,300	515,000	3,549,500	6,317,700
Vegetable fibers.....	152,100	257,700	213,600	77,300	1,860,400	2,643,300
Wool, bristles, hair, and manes.....	35,200	45,700	12,700	173,100	335,000	609,900
Silk.....	76,300	58,000	29,100	396,500	54,800	717,400
Paper and products thereof:						
Paper and pasteboard.....	210,300	230,200	334,300	136,600	13,900	950,400
Books and printed matter.....	88,500	84,300	78,800	65,400	6,700	330,300
Woods and other vegetable matter:						
Woods, and manufactures thereof.....	885,700	53,700	277,400	39,900	79,800	1,371,100
Other vegetable matter.....	71,600	5,600	50,400	17,200	15,700	190,400
Animals and animal products:						
Animals.....	1,419,900		900			6,265,100
Hides and skins.....	166,200	700	115,300	26,000	1,600	311,000
Manufactures.....	934,800	53,100	1,415,500	67,700	18,600	2,506,900
Instruments, machines, and apparatus:						
Instruments.....	46,400	83,400	12,200	49,600	700	213,200
Machines.....	1,992,600	118,200	15,500	54,900	387,300	2,773,400
Apparatus.....	644,500	7,400	600	25,500	119,500	800,600
Foodstuffs:						
Meat.....	4,295,200	3,600	195,500	16,300	29,900	6,600,200
Fish.....	313,400	4,700	192,100	8,800	182,800	1,057,900
Cereals.....	3,020,800	1,285,600	84,900	3,200	1,591,000	6,188,800
Fruits.....	100,200	500	171,200	9,400	8,700	293,400
Vegetables and garden products.....	659,200	108,200	670,900	24,900	270,100	2,233,000
Drinks and edible oils.....	131,300	51,800	2,304,500	163,100	247,300	2,995,700
Milk products.....	440,000	10,700	51,400	9,800	95,600	965,100
Other.....	1,153,800	6,200	100,800	11,600	4,300	1,586,000
All other.....	974,400	146,700	178,600	308,800	88,200	2,014,700
Articles free of duty:						
Coined money.....	2,090,500		458,900	1,063,800		3,613,200
Other.....	3,868,400	37,600	51,900	36,300	423,900	4,760,600
Total.....	27,793,600	3,921,900	9,572,400	4,435,800	10,799,700	67,077,600

EXPORTS.

Articles.	Exported to—					Total exports.
	United States.	Germany.	Spain.	France.	England.	
Animals and animal products:						
Animals.....	\$54,900		\$300	\$100		\$64,100
Hides and skins.....	13,600	\$181,500		81,300		276,600
Products.....	44,500	10,500	1,100	3,000		59,400
Sugar and sugar products:						
Sugar.....	39,491,900	200	2,300		\$950,200	40,452,100
Molasses.....	1,155,400		300		74,900	1,246,000
Fruits and cereals:						
Fruits.....	2,228,000		900	700		2,231,300
Cereals and pulse.....	460,400	64,400	92,200	11,400	27,500	667,700

Imports and exports of Cuba, by articles and countries, in 1903—Continued.

EXPORTS—continued.

Articles.	Exported from—					Total exports.
	United States.	Germany.	Spain.	France.	England.	
Sea products:						
Tortoise shell	\$4,800	\$15,700	.....	\$35,300	\$400	\$56,800
Sponges	133,100	27,000	\$7,900	238,100	13,500	423,400
Mineral products:						
Asphalt	24,300	4,600	.....	.....	5,000	34,100
Iron and copper, crude	1,648,900	.....	.....	.....	23,600	1,672,500
Scrap metal	217,400	100	500	.....	.....	218,100
Forest products:						
Vegetable fibers	18,600	61,400	400	7,900	1,400	150,400
Woods	1,289,700	545,600	18,500	13,600	170,200	2,189,500
Tannin and dyes .....	.....	24,600	.....	500	3,000	88,600
Tobacco:						
Unmanufactured	9,940,400	1,921,500	709,500	99,800	60,300	13,255,100
Manufactured	2,918,700	1,986,800	407,400	561,700	5,209,600	12,787,100
All other:						
Agricultural products, not elsewhere mentioned	187,800	515,100	.....	18,100	6,200	759,300
Distillery products	7,900	1,600	5,100	3,000	41,100	222,200
Other	94,500	5,200	22,300	52,800	1,100	217,300
Reexports	141,800	3,300	2,000	2,500	1,200	168,200
Money	1,045,400	.....	178,400	1,700	.....	1,225,500
Grand total	61,134,900	5,370,800	1,451,600	1,134,300	6,590,800	78,486,400

It is therefore seen that the United States bought from Cuba in 1903 \$60,000,000 worth of goods out of total exports valued at \$77,000,000. Thus 77 per cent of our total exports went to the United States and only 23 per cent to all other countries combined. In exchange (in truth hardly reciprocal) we imported from the United States 30 per cent of what we consumed and the other 70 per cent from countries which took only 23 per cent of our exports. In other words, out of every \$64 we spend we place but \$21.50 in the United States, while we sell to the United States at the rate of \$60 for every \$15 we sell to Europe. This condition is so unfair that it amply justifies the disgust of American manufacturers when they see how very slightly the treaty now in force has helped the situation.

Figures for the first six months of 1904, which we expect to receive shortly, will permit us to study the effect of the reciprocity treaty by comparing the figures for this half-year with similar figures for the first six months of 1903. We think these figures should be given out by the secretary of the treasury as soon as possible, since the prime importance of our commercial relations with the great American Republic demands that they be known.

COLOMBIA'S RESOURCES AND TRADE.

(From United States Consular Agent Granger, Quibdó, Colombia.)

CONFIDENCE IN THE GOVERNMENT.

The election of Gen. Rafael Reyes to the Presidency of Colombia has caused widespread satisfaction. His friends assert that he is the broadest-minded, most energetic, practical, and progressive man that has ever held the chief magistracy of the country. General Reyes

knows Colombia as perhaps no other man knows it, and in view of his extended experience in Europe, the United States, and Mexico, it is believed that he will carry out his programme of peace and progress on assured lines. The natural results of the confidence in the Government, even by former political enemies of President Reyes, is trade extension and the development of new industries. Here, in the Chocó region, the imports and exports have increased to such an extent as to tax to the utmost the existing transportation facilities, which will have to be greatly increased on the opening of mule roads, now under construction, to the neighboring department of Antioquia and the north of the Cauca Valley. It is therefore advisable for American manufacturers and exporters to keep their attention fixed on Colombia—a rich country whose inhabitants, after passing through the crucible of civil war and its attendant semianarchic conditions, are determined to place their Republic in line with modern progressive nations.

GERMAN TRAVELING SALESMEN.

Although the United States is favored geographically and by existing lines of communication, Germany is a great competitor. The Germans, besides having agencies established in most of the trade centers, send out by far the best traveling men that come to South America; men who, besides knowing their lines to perfection, are masters not only of their own language, but of English and Spanish, and, what is still more essential, are prepared to give from six to twelve months' credit.

AMERICAN GOODS IN COLOMBIA.

American goods, by their superior quality, are undoubtedly the favorites. The stamp of an American maker is regarded as a guaranty. One of the principal Quibdó merchants was recently very much incensed at having dispatched to him by a New York catalogue house tools with a German mark on them. He told me that if he had wanted German goods he would have sent his order to Hamburg, and that buying from an American catalogue he naturally expected American make. Such things as this may deflect valuable trade.

CATALOGUES FOR THE TROPICS.

Regarding the printing of catalogues, it should be borne in mind that for distribution in the Tropics, where the atmosphere is very humid, they should always be printed on paper without sizing or filled glaze; otherwise, they are likely to reach their destination all stuck together and absolutely worthless.

ANTIQUATED QUARANTINE REGULATIONS AT GULF PORTS.

To reach the States via New Orleans is quicker and less expensive than by New York, but except in the brief period from November to March, the antiquated quarantine regulations in our Gulf ports make

it impossible to travel by lines touching there. As a result of the conclusive United States Government investigations in Cuba, Brazil has completely reformed its quarantine regulations, and it causes comment that the old system is still in vogue in the first nation of the world. The greater the facilities, the greater the business. This is a strong point, which should receive the prompt attention of the proper authorities.

DEVELOPMENT OF THE CHOCÓ.

Mail for Quibdó.—All mail to Quibdó should be posted via Cartagena, as thereby it is delivered much quicker and more surely by steamer service than by the canoe and pack service from Buenaventura.

Gold mining.—Here in the Chocó gold mining continues to be the principal interest. At present the output is mostly from small placers worked by negroes, who also are very proficient in diving to the river bottom when the occasional droughts enable them to reach the pay strake and fill their bateas with the gold and platinum bearing gravel. The results obtained by the gold-dredging enterprises now established here are such as to place beyond question the prosperous future of this industry when the modern dredges now being arranged for are placed at work. Great interest is also manifested in quartz mining, as the Davaiba mine has been recently fitted up with five small wooden steel-shod stamps and is said to be clearing over \$100 a day. This mine is located on the cordillera between the headwaters of the Andagueda and Atrate rivers. Here is an immense stretch of untrodden ground, where, judging from the richness of the river beds below, many valuable discoveries ought to be made.

Coal.—Señor Modesto Garces, former president of the State of Cauca, and now special engineer for the National Government, is examining the extensive coal deposits on the Pacific slope with a view to asking bids for their exploitation.

Rubber industry.—Important as is the gold mining of the Chocó, its supremacy is being disputed by the rubber industry. Cultivated trees are now producing about a ton of rubber a day. Most of the negro farmers are planting rubber in a small way, and the total is very large. Formal planting on a large scale is being carried on at a number of plantations, as Yankolomba, La Maria, Salaquí, Bebará, and Tanguí. The practice here is to cut the bark lightly with the machete, so as not to pass to the wood; the cut fills up with gum, which coagulates and is gathered the following day. Careful growers cut but a small portion at a time, so as to avoid weakening the tree, but can repeat the operation every two weeks or month, as desired. The strips, called "chaza," are gathered from the gashes and rolled together, and bring about 75 cents a pound in the New York market. Trees as young as 3 years are bled in some cases, but it is preferable to allow them to grow undisturbed for two years longer. Cultivated rubber

here does not produce as much at a cutting as wild rubber, but the annual product is at least as great.

Cotton growing.—Cotton growing is being pushed in the Chocó by Don Juan C. Olier at his hacienda Salaquí, and by Abuchar Brothers at La Maria. It is also being tried at La Carolina and other places in the district. In the departments of Magdalena and Bolívar cotton growing is an established industry and is being rapidly extended. It is estimated that there are about 3,000,000 acres adapted to raising Colombian cotton, whose staple is so long as to bring higher prices in Manchester, when picked clean, than the sea-island cotton.

Sawmills.—During the past year the sawmill and woodworking plant of Zuñiga and Angel at Quibdó has been greatly extended. A sawmill of American make has been installed at Santatá, one has been ordered for Titumati, and it is probable that others will be installed in the near future at various points in the Chocó, so that this region will soon be shipping hard woods of the many excellent classes that abound here.

Petroleum.—New Orleans capitalists who have made a success in the Beaumont fields are arranging to make a thorough test for fuel oil at Arboletes, on the Atlantic coast, where there is a spring that bubbles a heavy oil. English capitalists hold extensive concessions for oil on tracts where there is considerable showing; they now have a driller on the ground, and are confident of good results.

Bananas.—Banana planting is being extended in the Gulf of Urabá, and also near Santa Martha. The fruit is excellent, and it is expected that this will become one of the important industries of the country.

Fiber plants.—There are enormous stretches of land in various sections of the Colombian coast regions covered with pita and other fibrous plants. Dr. Mario Lara Cordoba, the well-known biologist and explorer, declares that this is one of the most immediate possibilities for development that can be found. The fibers are now prepared in many places entirely by hand for material for fishing lines and nets and coffee sacks.

PROGRESS IN CARTAGENA.

As Cartagena is the principal shipping port, not only of Chocó, but of all Colombia, its sanitation and material progress are of general interest. The construction of an aqueduct to supply pure water in place of the fetid wells and sporadic rain supply has been advocated so earnestly that it is apparently about to become a fact. Capital is said to have been secured from Germany and the engineering work is now in progress.

Chicago capitalists are said to have arranged to locate at Cartagena a meat-packing plant to cost \$1,500,000. Despite the recent revolution, 500,000 head of cattle have been shipped to Cuba in the last two years, and the supply is almost inexhaustible.

Diego Martinez & Co. are planning to pipe natural gas for fuel purposes from wells on one of their haciendas. This will require a pipe line of some 12 miles.

CABLE AND WIRELESS TELEGRAPH.

According to a decree issued by the National Government on November 2, bids are asked for the construction of a cable or wireless system connecting the coast cities and foreign service. Buenaventura, on the Pacific, is the only Colombian city now having cable service.

RAILWAY CONSTRUCTION.

President Reyes's program lays special emphasis on railway construction, the greatest need of the country. There are only a few short lines now existing, but most of these pay well, although rendering inadequate service. Railways to the mining and coffee districts of Antioquia and the Cauca will regenerate and infinitely extend these industries.

PUBLIC-LAND WARRANTS.

Perhaps the best way of judging confidence in the present Colombian Government is to compare the prices of public-land warrants. Last spring these could be obtained in the open market as low as 2½ cents for 2.47 acres. The latest quotation from the interior is 30 cents, while large owners in Cartagena refuse to sell at less than 40 cents, and some declare that they will not sell at less than a dollar, which price they believe will be reached in the near future. All Colombia needs for prosperity is peace, and that appears assured.

HENRY G. GRANGER, *Consular Agent.*

QUIBDO, COLOMBIA, *December 12, 1904.*

Value of trade of the United States with Colombia, 1865-1904.^a

Year ending June 30—	Exports to Colombia.	Imports from Colombia.	Year ending June 30—	Exports to Colombia.	Imports from Colombia.
	<i>Dollars.</i>	<i>Dollars.</i>		<i>Dollars.</i>	<i>Dollars.</i>
1865.....	4,507,887	4,158,697	1885.....	5,583,369	2,342,077
1866.....	3,406,941	1,351,555	1886.....	5,490,457	3,008,921
1867.....	4,207,739	1,990,040	1887.....	6,114,941	3,950,953
1868.....	3,711,796	2,538,297	1888.....	5,023,880	4,393,258
1869.....	4,232,952	4,684,454	1889.....	3,821,017	4,263,519
1870.....	4,158,155	4,508,723	1890.....	2,585,828	3,575,253
1871.....	4,064,549	5,570,052	1891.....	3,182,644	4,765,354
1872.....	4,440,899	6,131,372	1892.....	3,134,152	4,116,886
1873.....	5,373,773	6,148,840	1893.....	3,155,777	3,572,918
1874.....	5,266,400	7,363,757	1894.....	2,784,634	2,234,887
1875.....	4,432,967	12,284,063	1895.....	2,596,302	3,713,682
1876.....	4,052,014	5,034,273	1896.....	3,382,588	4,970,092
1877.....	4,020,909	5,023,326	1897.....	3,807,165	4,730,933
1878.....	4,495,322	5,848,043	1898.....	3,277,257	5,183,604
1879.....	5,528,014	6,330,946	1899.....	3,040,094	5,126,731
1880.....	5,337,314	8,441,972	1900.....	2,710,688	4,307,814
1881.....	5,383,138	8,991,890	1901.....	3,142,052	3,230,652
1882.....	6,408,346	4,961,470	1902.....	2,973,460	3,271,894
1883.....	6,868,971	5,171,455	1903.....	4,305,629	4,215,568
1884.....	6,381,821	3,891,843	1904.....	4,660,891	7,949,211

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

POTTERY TRADE OF STAFFORDSHIRE.

(From United States Consul Smyth, Tunstall, England.)

COMPETITION OF CONTINENTAL MANUFACTURERS.

It is a singular fact, in connection with the export of Staffordshire pottery to the United States, that during a period of nearly ten years the trade has shown such slight fluctuations that it might be said to have remained stationary. The growing market in the United States and the increased demand for pottery of all grades during this period seem to have exercised no material or favorable effect on the industry here. The explanation is found in the activity of the German and French makers, who have succeeded in exploiting their products in the American market to the great detriment of Staffordshire ware. This has been accomplished by a close study of the market's needs and by the adaptation of details which relate more particularly to originality of design and neatness of finish rather than to the quality of the ware itself. Even in the home market these features of Continental ware have an attractive interest for the masses; they catch the eye and please the taste to such an extent that English manufacturers of earthenware have to meet competition in their own markets.

In what might be termed the staple articles, such as those which figure largely in the practical needs of the household, the Germans have successfully invaded the English market and built up an excellent trade for dinner sets, tea sets, dessert sets, cheap vases and trays, and a great variety of small articles of the trinket order. They have been equally successful with their glassware, especially those articles which are closely allied to pottery. I saw samples of German ale glasses at 48 cents a dozen, whisky glasses at 41 cents, and "pony" glasses at 42 cents, subject to a liberal discount, that can not be produced in England at the same figure without absolute loss. These glasses are mainly for hotel use, where their cheapness and adaptability constitute an important item in the economy of management. Both sides in the great fiscal controversy now raging all over England have expounded many theories in connection with this steady depreciation in the home market, with a view of exposing what is recognized as a serious defect in the economic system of the country, and providing means for its prompt and effective removal.

While it would be unfair to say that the fault lies wholly with the Staffordshire manufacturer himself, circumscribed and hampered as he is by laws and conditions that are to be found nowhere else, he is in a great measure responsible for the misfortune that has fallen upon the trade. His self-sufficiency and insular prejudice have prevented him from realizing the fact that during the last quarter of a century the commercial and industrial world has been very much on the move, and

that new methods have been springing into life in constant succession and revolutionizing conditions in nearly every department of science and industry. There is no effort made to conceal the fact that the trade of the potteries is in a most deplorable state; so bad, indeed, that we have to go back thirty years to find its parallel.

If you ask a manufacturer why this is so he will advance a variety of reasons, always assigning first place to the tariff laws of other countries. While it is true that the American tariff has been a great check on the export of British products, it is just as true that German manufacturers have been placed at a similar disadvantage; nevertheless, the expansion of German trade with the United States has been steady for the last twenty years. In the pottery trade this has been particularly noticeable. The German potter has succeeded where the English potter has failed, for several reasons, chief among which are (1) his superior training, based on a more thorough system of education, both technical and scientific; (2) his concentration and industrious application; (3) his frugality, steadiness, and sobriety. Furthermore, the relations between the employer and employee are more elastic and consequently much more conducive to a free interchange of thought and the maintenance of mutual understanding and good will. Now, the position of the English potter is exactly the reverse. He has only recently discovered that his system of education is all wrong; that his operatives have neither concentration nor application, as compared with their German competitors, and that they fall far behind them in those habits and virtues that are so essential to success in the lives of industrial communities.

TRANSPORTATION.

The lack of cheap transportation by rail and internal waterways is a great drawback to the pottery trade of Staffordshire. In this respect the Continental manufacturers have a decided advantage. The spirit of enterprise which is rapidly developing the canal system of Germany finds no field here. The result is that an important item in the economy of production is lost to the English potter. In the early days he found his raw material close at home, but as the quality of his ware improved he had to travel farther afield, until now he is compelled to go down to the southwest of England for his supply of stone and clay. The German draws from the same source, and, paradoxical as it may seem, it costs him less to lay down his raw material on the Continent than it costs the Staffordshire potter on his own pot bank at home. The average rate per ton from Cornwall by sea to Runcorn, on the Mersey, near Liverpool, and thence by the North Stafford Canal to the potteries, is about \$3, while the rate from Cornwall to ports in Germany is about \$1.50. The increasing demand for this material from other countries has been instrumental in enhancing its value, so

that every now and then the owners of the land feel justified in advancing the price. The millers of this district who grind the stone respond with a corresponding increase, and the small potters who patronize them have to submit. The owners of these lands, it may be stated, are drawing closer together year after year, and the effect on the English pottery industry of the combination apparently impending has been the subject of much speculation and the cause of considerable anxiety in this district.

To give an idea of what this transportation question means to the British producer generally, I make use of some figures that recently appeared in the public press. It costs 23s. 6d. (\$5.72) to transport a ton of hardware from Birmingham to London, while the rate for the same class of goods over the same distance in Germany is about \$2.25; cotton goods from Manchester to London cost, per ton, 36s. (\$8.76); in Germany, the same distance, 20s. to 23s. (\$4.86 to \$5.60); general machinery from Leeds to Hull, 25s. (\$6.09); in Germany, over precisely the same distance, 4s. 6d. (\$1.09) per ton. The carriage for a ton of apples from Folkstone, on the south coast of England, to London, is \$5.86, while goods of the same class are carried from California to London for \$3.81. It costs \$9.73 to send a ton of British meat from Liverpool to London, while it costs only \$6.09 to send a ton of foreign meat to the same market.

The Irish farmer who wants to get his produce to London has to pay \$22.88 carriage per ton on his eggs from Galway, while the Danish farmer can send eggs into the London market for \$5.85, the Russian for \$5.10, and the farmer in Normandy for \$4.05. The man down in Kent, who is almost at the London market, has to pay \$6.10 per ton to the railway companies for carrying the produce of his orchard to London, while the same class of freight is brought from Holland for half the money.

In precisely the same way the Staffordshire potter has to struggle against the unjust and repressive exactions of railway combinations and monopolies at home. The canals which were originally constructed for the purpose of affording cheap transportation to the farmer, the manufacturer, and the merchant, and thus protecting them against the oppression of the railroads, have either passed into the control of the latter or have united with them on a pooling basis, so that the railroads are now in a position to dictate their own terms, regardless of the advantages it gives the foreigner or the demoralizing effect it has on the home market. All the railroads in this country are bound by pooling agreements to maintain certain rates for the transportation of freight, so that open cutting by competing lines is rendered impossible. In this respect the English railway system is a gigantic trust, which oppresses rather than relieves the commerce of the country. For years chambers of commerce and commercial bodies

throughout the land, representing all trades and industries, have thundered against its oppression by speeches, resolutions, and appeals to Parliament, but the result has always been the same; the position of the railway companies remains undisturbed, and that position means nothing more nor less than a relentless and absolute dictatorship. There is no form of commercial or industrial combination in the United States to compare with it.

EXPORTS OF STAFFORDSHIRE POTTERY.

Ten years ago the value of the pottery exports from this district to the United States was \$2,500,000. In 1895 the exports were \$4,382,835, and in the following year \$4,414,037. In 1897, under the change in administration and the Dingley tariff act, the exports dropped to about one-half, and have there continued with slight variations. Last year there was an increase of nearly \$300,000, which was due to misunderstandings between some of the large merchants and the manufacturers in the United States. The buyers came over here in very bad temper and invested largely in lines that could have been supplied by the home manufacturer. The present condition of trade, however, does not justify the assumption that these misunderstandings will be permanent or are likely to have much effect on the value of exports from this district to the United States during the current fiscal year.

The value of the exports from this district in the ten months ended October 31, 1904, was \$2,382,432.

LONGTON CHINA TRADE.

The vast improvement in the production of a very superior ware called semiporcelain, which combines with a sound and durable body a lightness and elegance of finish, and is made in a wide range of new and handsome designs, has resulted in creating and establishing a new taste which has made serious inroads on the output of china. In Longton, one of the pottery towns of this district, where the manufacture of china has been brought to great perfection, the trade during the present year has been the worst in its history. Should the present demand for the semiporcelain ware become an established feature of the trade, the future of the china industry, at least, becomes a matter of serious consideration with those whose lives and fortunes are inseparably bound up in its preservation and prosperity.

WILLIAM P. SMYTH, *Consul.*

TUNSTALL, ENGLAND, *December 10, 1904.*

Imports of earthen, stone, and china ware into the United States from Austria-Hungary, France, Germany, Japan, and the United Kingdom during the years ended June 30, 1894 to 1903.^a

Classes of ware and countries.	1894.	1896.	1898.	1900.	1901.	1902.	1903.
NOT DECORATED OR ORNAMENTED.							
<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>
Austria-Hungary	38,506	46,191	21,301	24,301	43,866	47,421	42,528
France	206,153	284,287	110,097	172,294	179,846	208,462	226,374
Germany	61,313	91,074	59,233	92,567	122,403	164,022	194,573
United Kingdom	944,632	1,337,968	634,138	784,699	645,175	522,960	558,704
All other countries	8,278	45,905	9,457	7,824	9,766	12,662	50,565
Total	1,258,881	1,804,425	834,226	1,081,685	1,000,896	955,517	1,072,744
DECORATED OR ORNAMENTED.							
Austria-Hungary	521,850	727,553	486,937	495,545	563,280	642,976	669,801
France	880,931	1,276,548	767,358	1,269,071	1,364,080	1,399,618	1,637,125
Germany	1,418,906	2,501,743	1,986,974	2,619,737	3,199,065	3,423,975	3,677,125
Japan	332,656	386,376	312,337	371,038	445,854	468,104	508,696
United Kingdom	2,011,395	3,249,761	1,917,128	2,225,128	2,285,320	2,130,177	2,203,093
All other countries	56,337	173,015	108,673	196,140	206,138	245,061	308,012
Total	5,222,075	8,314,996	5,579,407	7,176,659	8,063,687	8,309,911	9,003,832
ALL OTHER.							
Austria-Hungary	3,757	10,159	1,072	28,167	14,940	5,775	1,802
France	41,656	60,889	21,262	20,336	24,250	10,577	28,286
Germany	38,388	99,293	48,735	74,859	71,357	68,218	89,843
United Kingdom	292,138	259,608	158,491	225,566	256,474	275,264	234,178
All other countries	22,542	56,991	49,165	37,993	41,205	59,894	81,387
Total	398,481	486,440	278,725	386,921	408,226	414,728	435,456
RECAPITULATION—ALL CLASSES OF WARE.							
Austria-Hungary	564,112	782,903	509,310	548,013	622,086	696,172	714,131
France	1,128,740	1,621,224	898,717	1,461,701	1,567,966	1,618,657	1,891,785
Germany	1,518,207	2,692,810	2,089,942	2,787,163	3,392,825	3,651,215	3,961,501
Japan	335,461	387,591	313,712	373,269	449,518	469,707	519,390
United Kingdom	3,248,165	4,847,337	2,709,757	3,235,383	3,186,969	2,928,391	2,995,975
All other countries	84,752	273,996	166,220	239,736	253,445	316,014	429,270
Grand total	6,879,437	10,605,861	6,687,658	8,645,265	9,471,869	9,680,156	10,512,052

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

QUEENSLAND ARTESIAN WELLS.

(From United States Consul Goding, Newcastle, New South Wales.)

The aggregate daily flow of artesian water in Queensland on June 30, 1903, was estimated at 385,504,854 gallons, fully half of which, according to good authority, is allowed to go to waste. The water from some of these wells is giving out, but that is owing to their having been bored at too great an altitude to maintain a continuous flow, there being insufficient head and too small an area of reserve. But, though such wells no longer bring water to the surface, the water is still below. Holes are not put down where water is proved to exist, but untried ground is always selected. Official figures show that at the end of June, 1903, there were 960 wells in the State, an increase of 26

on the number for the previous year. There has been a gradual increase in the number of wells for some years. The total aggregate depth of the wells June 30, 1903, was 1,171,461 feet, or 222 miles, an increase of 6.83 miles in the year. The average depth of the bored wells east and west of the Dividing Range is now 1,220 feet, against an average depth of 1,216 feet for the previous year. The deepest well in the State is on Bimerah Run (central district), the depth being 5,045 feet, or nearly a mile. The daily flow is 70,000 gallons. The shallowest well is on the Manfred Downs, 10 feet, with a flow of 2,000 gallons a day. Elderslie No. 2 well gives the hottest water, 202° F. Its depth is 4,523 feet, and the estimated flow is 1,600,000 gallons a day. This is the greatest volume of water yet tapped at such a depth in Queensland.

Of the 960 wells fully 850 are privately owned, and of these there are 67 with an outflow of over 1,600,000 gallons a day each, 105 with a flow estimated at between 750,000 and 1,500,000 gallons a day, and 222 with a flow between 150,000 and 750,000 gallons a day. Out of the 960 wells 576 are described as flowing, or 13 more than in the previous year. The aggregate daily flow from measured and unmeasured wells is estimated at 385,504,854 gallons.

F. W. GODING, *Consul*.

NEWCASTLE, NEW SOUTH WALES, *October 31, 1904.*

COLORED WOODS FOR FURNITURE.

(*From United States Consul Bergh, Gottenborg, Sweden.*)

The colored-wood industry began in Italy in the seventeenth century, and wood-coloring works came to Sweden during the Thirty Years' War; but until quite recently the method was used on a very small scale, and at first only dry wood was colored. Now, by the method invented by the Austrian, Joseph Phister, in 1901, the wood is colored when fresh. The tree is cut while the sap is in action, and in the coloring process the dye is forced under heavy pressure into the wood and replaces the sap. Until recently the nonpoisonous colors and "anilin" have been used, but those colors fade a little. Now the manufacturers can color to a length of 13 feet. Birch, beech, alder, maple, elm, and basswood are the best kinds of wood for the purpose; oak is not good on account of the tannic acid, and in spruce and pine the color can not be made uniform.

The wood looks best when polished and when it is given a gay color. The prices are yet comparatively high on account of the amount of waste, but improvements may follow; and with cheaper prices and more extensive use it is considered that colored wood will give Sweden an important income. It can be used in furniture, pan-

els, and doors, also in outside work in order to avoid painting. It is especially good for fitting ships and tram cars, and also for elegant and modest furniture. During 1903 and 1904 many works for such wood have been built.

ROBERT S. S. BERGH, *Consul*.

GOTTENBORG, SWEDEN, *December 12, 1904.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfurt, Germany.)

The following notes concerning business opportunities abroad are derived from various German sources.

RAILROADS.

Argentina.—The Compania Francesa de los Ferrocarriles de la Provincia de Santa Fe has received a concession to build a branch road 16 miles in length. The Empresa del Ferrocarril Oeste de Buenos Aires will extend its line from Lincoln to Victoria, a distance of 19 miles.

Portugal.—A railroad line is to be built between Livracao and Amarante, Portugal. For particulars apply to Conselho de Administracao dos Caminhos de Ferro do Estado, Lisbon.

Roumania.—A railroad is to be built between Govora and Govora-Baths in Roumania. The Government will give a subvention to this line.

RAILROAD EQUIPMENT, ETC.

Belgium.—The Belgian Government will soon contract for a large lot of railroad material, such as clamps, plates, spikes, etc.

Italy.—The Italian Cabinet Council has recommended the purchase of 10 eight-wheel and 30 six-wheel compound locomotives, 30 six-wheel tender locomotives, 200 passenger cars, and 100 freight cars for the Adriatic railroad lines, at a total estimated expenditure of 10,000,000 lire (\$1,930,000).

Spain.—The Junta de Obras del Puerto at Valencia will receive proposals for 8 turntables and a supply of Vignole steel rails and switches.

Norway.—The Statsbanernevers Hovedkasserer, Jernbanetorvet, Christiania, Norway, will receive bids for the delivery of 5,286 tons of steel rails.

ELECTRIC RAILWAYS, ELECTRICAL EQUIPMENT, ETC.

Austria-Hungary.—The municipality of Twodau, Bohemia, Austria, contemplates the introduction of electric lighting.

Spain.—The Bilbao-Santander Railway Company will use electric power in operating the line from Bilbao to Las Arenas, Spain.

An electric railroad is to be built between Sans and Coll-Blanch, in Spain. For particulars, address Dirección General de Obras Públicas, Madrid.

Switzerland.—An electric elevator for ships is to be constructed at Romanshorn, Lake Constance, Switzerland. For details, write to the General Direction of the Swiss State Railroads, at Berne.

MUNICIPAL AND OTHER CONSTRUCTION CONTRACTS.

Austria-Hungary.—The city of Leitmeritz, Bohemia, Austria, is to have a new sewerage plant.

The city of Prague, Bohemia, and its suburbs are to receive additional water supply; the works and supplies necessary are estimated to cost 12,000,000 crowns (\$2,520,000).

Chile.—Two bids have been made for constructing the sewerage system of Santiago, Chile. One was from a Chilean firm, at £1,186,400 (\$5,773,022); the other, for £1,350,000 (\$6,569,775), came from a French firm. It is believed the commission in charge will submit new plans for construction.

Egypt.—An expenditure of \$890,000 is to be made for extending the wharves and erecting additional wharfage sheds in the harbor of Alexandria, Egypt.

MISCELLANEOUS.

Egypt.—The agricultural expert attached to the German consulate-general at Cairo reports that American steam plows are being successfully used in that country. He advises German manufacturers to combine and send a good mechanical engineer to Egypt to study agricultural conditions, and what machines are best suited for that country. He further says that mechanical experts should be intrusted with the sale of the machines instead of mercantile importing firms as hitherto.

Philippine Islands.—The Bulletin Commercial reports that the harbor board of Iloilo will make extensive purchases of cement.

Roumania.—The Régie des Monopoles de l'Etat, at Bukharest, Roumania, will receive proposals to furnish 500,000 salt sacks and 35,000 meters of jute bagging.

Syria.—The administration of the Damascus-Hamah Railroad, at Beirut, Syria, advertises to purchase 4,000 tons of coal briquettes.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, December 21, 1904.

AGRICULTURAL CONDITIONS IN ARGENTINA.

(From United States Consul-General Mayer, Buenos Aires, Argentina.)

The total area of Argentina is 720,000,000 acres, of which 240,000,000 may be called arable, 240,000,000 pastoral, and 240,000,000 nonagricultural. The available land under cultivation and that which could be cultivated and made productive is about 120,000,000 acres. Approximately 24,410,000 acres are under cultivation at the present time, in the following crops: Alfalfa, 4,000,000; wheat, 12,000,000; corn, 5,000,000; flax, 3,000,000; barley, 200,000; oats, 100,000; alpiste (birdseed) 35,000; citrus fruits, 80,000, and orchards, 100,000.

The wheat crop this year is expected to be approximately 3,500,000 gross tons (about 140,000,000 bushels), the corn crop about 2,500,000 gross tons, and the flax crop about 800,000 gross tons.

Corn, wheat, and flax are the principal crops. Argentina is distinctively an agricultural country and never can be expected to be a manufacturing country, because of natural conditions. There will be a great opening for labor-saving machinery, for, at the present time, the use of such is about the only way by which Argentina can expect to increase its production. Out of the population of scarcely 5,000,000 inhabitants only about 2,000,000 live in the rural districts, consequently there is very much to be done by the individual workman. Many of the wealthy farmers are beginning to see that they must make one man do the work of as many men as possible, and the way to do that is by machinery. There is a distinct improvement in this particular within the last twelve months.

D. MAYER, *Consul-General.*

BUENOS AIRES, ARGENTINA, *December 5, 1904.*

COMMERCE OF SPAIN.

Under date of December 7, 1904, United States Consul Bartleman, Seville, Spain, transmits the following translation of an article from the *Heraldo de Madrid* of December 2, relative to the foreign trade of Spain during the ten months ending October 31, 1904. The consul, in his reductions from Spanish to American money, has estimated the peseta at 13½ cents.

Customs statistics just published indicate that the satisfactory condition in Spain's commercial balance continues. During the first ten months of the present fiscal year imports amounted to \$91,621,800, and exports to \$96,352,200, the excess of exports being \$4,730,400. Deserving of mention is the fact that among the exports silver bullion and currency are represented to the amount of about \$3,105,000.

The imports of this metal in both forms were only \$1,242,000. International exchange discloses the same gravity as formerly, when the commercial balance was unfavorable, and the want of means is little consistent with the great welfare which, in the opinion of certain economists, is indicated by the difference between imports and exports. The depreciated currency in Spain is a powerful stimulus to export shipments of all classes, in consequence of which, as has been manifested on other occasions, the supplies required for domestic consumption are reduced, initiating one of the causes which contributes to increasing prices and thus to intensifying the present economic crisis. The premium of exchange, moreover, places a restriction on purchases from foreign countries, and although this tends to enhance the trade balance in favor of Spain, it does not so much reflect an increase of export trade as it does a regimen of reserve due to the necessity of paying in gold for purchases made by the country in which depreciated currency prevails. The decline in the importation of primary articles into a country like Spain, where the industrial development is but small, is of significance quite opposite to that of a display of public activity under normal conditions.

Comparing 1903 with 1904 (the first ten months of the year always being referred to), the falling off in the imports of primary articles has been \$3,915,000. The imports of manufactured articles have also decreased, their value being \$28,453,950, \$29,532,600, and \$26,008,900, respectively, during 1902, 1903, and 1904. On the other hand, exports of unmanufactured articles have amounted to only \$1,350,000. Exports of unmanufactured articles, which in 1903 were \$37,530,000, were \$36,787,500 in 1904.

If the value of gold and silver, both in bullion and currency, is deducted from the total imports and exports as outlined by the statistics, there will still be shown a balance in Spain's favor of \$2,835,000, in round numbers.

The insufficiency of the quantities of cereals which are raised on the scant tillable soil is brought into evidence by the constantly increasing imports of wheat, which in 1902, 1903, and 1904 were 1,824,674, 2,854,957, and 6,471,971 bushels, respectively, valued at \$1,575,450, \$2,463,750, and \$5,587,650. Supplies of barley, rye, maize, and other cereals were drawn from foreign countries to the value of \$2,184,300 in 1904, or double the value of similar imports in 1903. Imports of salted meats and dried beef have increased in value by \$16,773,210, but on the other hand there is a falling off of 11,023,000 pounds, worth \$472,500, in those of cod and stock fish.

The largest increase in exports occurred in common wines, of which the shipments of the present year exceeded those of 1903 by 7,925,100 gallons, worth \$1,215,000. Exports of common wines during 1902, 1903, and 1904 were \$4,275,450, \$7,144,200, and \$8,278,200, respectively. Exports of alimentary substances during 1902 totaled \$30,150,900 in value, those of 1903 and 1904 reaching the value of \$36,209,700 and \$37,496,250, respectively.

Value of trade of United States with Spain, 1865-1904.^a

Year ending June 30—	Exports to Spain.	Imports from Spain.	Year ending June 30—	Exports to Spain.	Imports from Spain.
	<i>Dollars.</i>	<i>Dollars.</i>		<i>Dollars.</i>	<i>Dollars.</i>
1865.....	4,049,314	1,032,963	1885.....	11,991,068	4,703,945
1866.....	5,718,746	2,673,108	1886.....	13,091,950	5,980,202
1867.....	5,566,256	3,050,812	1887.....	12,781,558	5,570,868
1868.....	7,650,563	2,878,007	1888.....	14,318,166	5,189,745
1869.....	7,601,179	3,558,388	1889.....	11,946,348	4,636,661
1870.....	9,782,403	3,638,345	1890.....	12,758,463	5,288,537
1871.....	10,251,886	4,188,446	1891.....	14,619,335	6,033,481
1872.....	9,466,566	4,426,165	1892.....	11,528,424	5,207,861
1873.....	10,073,633	4,962,431	1893.....	13,460,083	5,694,553
1874.....	11,653,138	4,598,204	1894.....	13,122,906	4,258,875
1875.....	7,567,376	4,534,666	1895.....	10,927,069	3,574,126
1876.....	10,147,720	3,899,863	1896.....	11,492,428	4,181,184
1877.....	10,473,476	3,280,836	1897.....	10,912,745	3,631,973
1878.....	8,205,466	3,263,646	1898.....	10,228,545	3,573,565
1879.....	12,525,329	3,334,241	1899.....	9,077,897	3,932,363
1880.....	14,657,894	5,052,419	1900.....	13,399,680	5,950,047
1881.....	12,554,547	5,333,965	1901.....	15,480,288	5,408,301
1882.....	12,014,206	5,999,506	1902.....	15,511,967	8,270,546
1883.....	16,931,287	7,794,846	1903.....	17,682,210	8,478,587
1884.....	11,895,190	6,207,520	1904.....	15,675,011	8,472,732

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

CANADIAN NOTES.

(From United States Consul Holloway, Halifax, Nova Scotia.)

Discriminating tariffs.—It is stated there is a movement in the Dominion to propose a triple tariff—one scale of duties for high-tariff foreign countries like the United States, a lower scale for low-tariff foreign countries, and a third still lower for countries of the British Empire.

Capital and labor.—That representatives of the largest Canadian organizations of labor and capital are to meet in conference during January, 1905, to discuss ways and means for the prevention and settlement of labor disputes, means something to the general public of the Dominion as well as to the workingmen and manufacturers. The strikes reported in Canada during the past year involved a loss of 671,227 working days.

American and French enterprises in Canada.—The managers of the American Ax and Tool Company are looking for a suitable site in or near Montreal, the idea being to establish a tool works in the Dominion the better to look after their Canadian trade. They have at the present time three large factories in the United States, but believe that they can extend their business in this country very materially by building a branch here.

Another mill for the manufacture of steel products is in sight for Canada. Paul Koch and Jules Weill, representing the *Compagnie Générale des Produits Métallurgiques de France*, recently visited Montreal and Ottawa, where they made extensive inquiries regarding the prospects for marketing their goods in this country. They are

also investigating the iron deposits of Canada, and if the general outlook seems favorable they will recommend the establishment of a branch factory at one of the above-mentioned places.

W. R. HOLLOWAY, *Consul-General*.

HALIFAX, NOVA SCOTIA, *December, 19, 1904.*

NEW AMERICAN-CANADIAN CAR COMPANY.

(*From United States Consul Worman, Three Rivers, Canada.*)

American and Canadian capitalists have this week formally organized at Montreal the Canadian Car Company, a large industrial concern which began work some months ago under a provisional directorate, by starting the erection of shops at Turcot, a short distance from Montreal. The company owns some 30 acres at Turcot, and it is understood that the shops will be in operation with 1,000 men early in the spring and will begin delivery of cars by next August. Pittsburgh parties are most prominently identified with this latest Canadian industrial undertaking, for which American capital comes across the borders to be joined with that of Canadian investors. The capital stock of the company is \$3,000,000, of which one-half was subscribed in the United States.

The company has already booked an order from the Grand Trunk Pacific for 15 cars a day during the next five years, beginning with August, 1905, making a total of 23,475 cars. The capacity for output will be 25 freight cars a day and 12 passenger cars a month.

Here, as well as in Germany and England, competition in industrial enterprises, especially where export is concerned, is becoming extremely keen. The hard times now prevailing in England and the period of depression only just ending in Germany are forcing these countries to find markets for the output of their factories on the American Continent, and with so many new enterprises starting in Canada we shall have to reckon as well with the Dominion as with the other two countries named in our industrial competition.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, CANADA, *December 19, 1904.*

GERMAN VIEW OF AMERICAN INDUSTRY.

(*From United States Consul-General Mason, Berlin, Germany.*)

The throng of German engineers, mechanics, scientists, educators, merchants, and manufacturers who went to America during the past summer, not only to see the Louisiana Purchase Exposition, but to travel over the United States and examine with expert intelligence the details of American railway management, and our agricultural and

industrial methods, are now returning and relating to their neighbors and colleagues what they have seen. One can hardly take up a German newspaper without finding a more or less extended report of what some one of these clever observers had found and learned in the United States, and has related to his verein or local chamber of commerce, with his comments and conclusions as to what it all means to Germany. It has been no mere pleasure trip to these thoughtful gentlemen, but an earnest, serious effort to learn everything possible of the real productive and commercial strength of our country, and what Germany will have to meet and compete with in the future struggle for a growing share in the world's trade.

It is quite worthy of note that the general tone of these reports is distinctly reassuring to the hearers before whom they have been delivered. While admitting freely the boundless resources of our country, the energy, industry, and unsurpassed mechanical skill of the people, the superiority of our factory system, the speed and cheapness of rail transportation, and the restless, progressive spirit which is always looking for a new and better machine or method than the one already in use, the German experts find, or think they have found, defects in many parts of the American system, which unless reformed will continue to weaken our country's grasp upon international trade and promote the interests of competing nations. Without necessarily concurring in these criticisms, it may be of timely interest to hear and consider briefly what they are.

There has been noticed, to begin with, on the part of our people a general feeling of complacent satisfaction with everything American, a secure conviction that whatever is done or produced by them is the best, and that they have only to keep on as they have begun to have the future securely in their hands. There is, say these critics, a pervading ignorance and indifference about everything outside the United States that will be, unless corrected, a serious handicap in our quest for foreign trade. The careless confidence with which agents and salesmen are sent abroad, with no special preparation and with no knowledge of any language but their own, to do business in countries where only a trifling percentage of the population understands English, strikes these careful, methodical European experts as amazing. The meagerness of technical education, the trifling annual contingent of chemists, engineers, educated dyers, weavers, and electricians, as compared with the throng of lawyers, physicians, dentists, and unspecialized graduates turned out by our colleges and universities, seems to them shortsighted and improvident. The high standing and excellence of a half dozen great technical schools in the United States are frankly conceded; but what are these in a country of eighty millions of people in which practically every student is destined for an active and useful life?

But most surprising of all appeared to the German visitors the absence of any adequate system of special education for commerce, banking, and foreign trade. They consider our so-called commercial colleges, where young men with a district or grammar school education are rushed through a three-months' course of bookkeeping and commercial usages, as little better than a farce. One of the visitors, a stadtrath and professor of commercial ethics, talked with some of the students of such an institution in one of the Eastern cities, and was surprised at their limited and superficial knowledge, their ignorance of languages, and nearly everything else outside the United States, and their cheerful confidence that their ten weeks at the "college" would equip them for success anywhere. Reduced to simplest terms, these investigators generally conclude that the reliance on a general and more or less superficial education, together with natural adaptability, to fit young men for almost every walk in life, and the lack of specialized study in physical science, modern languages, and the industrial arts, will, if persisted in, neutralize much of the advantage which our country enjoys through natural resources and advantageous geographical position for the South American, Mexican, and Asiatic trade. They note also the enormous disparity between American and European wages, the high rates charged by express companies, and the general heavy cost of handling business in the United States, and conclude that on the whole the "American danger" has been greatly exaggerated, and that a steadfast adherence by Germany to the educational system and commercial methods now in practice will leave the Fatherland little to fear in future competition with American manufactured goods.

In just what degree these observations are correct, and the resultant conclusions logical and justified, it is not the purpose of this report to inquire. Inevitably, the observations which have been here roughly summarized were made from the German standpoint by men who might naturally overlook or misunderstand much that did not conform to their theories and traditions. But the fact that such conclusions have been declared by trained observers, after several months of close observation, may well suggest the reflection whether some points in their criticism should not be taken into account.

Certainly it should not continue to be truly said of our people that their most dangerous weakness is overconfidence, an undue reliance in their own skill, and the innate superiority of everything American, and their consequent unwillingness to adapt their goods to the wants of foreign consumers, or make the systematic effort which other nations have found necessary to build up and maintain a prosperous export trade. That this danger really exists does not rest upon the testimony of the German visitors alone.

An eminent English technician who recently visited the United

States was impressed with the lack of scientific knowledge on the part of foremen and high-class operatives and the indifference on the part of their employers to the latest and highest perfections in machinery. The latter portion of this criticism is confirmed by various Americans who are engaged in supplying new labor-saving machines to Great Britain and Germany, and who find that progressive foreign firms in the metal industries are more enterprising than their American rivals in adopting up-to-date labor-saving equipments of American origin. Germany and Great Britain afford especially good markets for American machinery of the best types. Not only this, but the labor conditions abroad seem to favor the use of such perfected machinery. This opens up the latest and most important fact in the whole situation, which is that the conditions of labor, especially in the metal industries, are rapidly changing—have, indeed, changed in England and Germany since the great machinists' strike in Great Britain and since the Germans have learned that it is against America, not Europe, that their industrial strength must in future be measured.

An incident which illustrates this is related by a leading American manufacturer of machine tools and has been published on both sides of the Atlantic. The manager of a large machine shop in Berlin was about to order a new machine tool, and sent to an American factory sample pieces to be worked by it in order to ascertain precisely the time that would be saved and how well the work would be performed. The pieces were worked out and returned, with a report of the time occupied by each operation. Among others, a piece had been roughed out to the required size by an engine lathe in seven minutes. Shortly after, the American manufacturer visited the Berlin shop and was shown the written tag affixed to the piece and was told that it was absurd—that the lathe work would require at least an hour. He then offered to demonstrate that it could be done in seven minutes, the engine lathe having meanwhile arrived and having been set up ready for work. But the German foreman said, "No, that is unnecessary: if the Americans can do it in seven minutes, we can." Two days later the foreman reported that under his supervision the lathe had done the work in five minutes.

The story is pertinent only as a proof and illustration of how German shops are being supplied with the very latest and most highly perfected machinery, and how German workmen have been taught to take the American rate of production as the standard and to work up to or even beyond it. Realizing that the future prosperity of German manufacturers will depend, as now, largely on their export trade, and consequently their ability to compete with those of America, German workmen of the better class have come to the conclusion that their best interest is to be as efficient and productive as possible. There is a new and pervading ambition to beat the foreigner wherever

possible at his own game and with his own tools. When it is remembered that this highly educated, efficient, and ambitious labor costs the employer only from one-third to one-half the wages that are paid in the United States and that it is comparatively tractable and easily managed, it will be seen that a situation is being developed here which our countrymen will do well to take into account.

In no other country is banking capital so largely, so skillfully, and so effectively used to develop and sustain manufacturing industries and to market their products in foreign countries as in Germany. A large, enterprising, and steadily growing merchant marine carries the products of German industry to every part of the inhabited globe. The united influences of the Government, the powerful sale and trade syndicates, and of the capitalists who found banks and finance railways in new countries, are all intelligently and systematically exerted to give Germany a front place in the list of exporting nations.

As Germany has been clever and enterprising in adopting and making the best use of improved methods and machinery from abroad, so the nations which, like our own, must meet this competition in the world's markets, will find it needful to imitate her methods in much that relates to thoroughness in specialized education, in the art of adapting and selling goods to alien peoples, and to high service in everything that pertains to the development and maintenance of foreign trade.

FRANK H. MASON, *Consul-General*.

BERLIN, GERMANY, *December 19, 1904.*

CHINESE TEA-ADVERTISING CAMPAIGN.

(*From United States Consul Anderson, Hangchau, China.*)

There is reason to believe that there is about to be inaugurated an aggressive advertising campaign in behalf of the green-tea trade of China. For a number of years past this trade has been very dull. It has commenced to show marked improvement, however, and the removal of some of the export tax, and a disposition on the part of the customs authorities to remove all internal taxes on the product possible under present legislation, gives great promise for the future. The Chinese tea guilds have begun to understand some of the reasons for the dull period through which the trade has been passing and mean to avoid some of its results and a recurrence of the trouble in the future. The statistical secretary of the imperial maritime customs, in his last report, said:

There are two directions in which concerted action by the tea guilds would accomplish much, and they are the education of the grower and advertising. The Indian growers, having taken possession of the black tea trade, are reaching out to supply the markets for green tea,

and are making every effort to have brick-tea factories established. The Ceylon planters, by a system of bounties ranging from 7 cents a pound in 1901 to 3 cents in 1903, have encouraged the growth of shipments of green tea from 1,600,000 pounds in 1901 to 4,000,000 pounds in 1902 and over 11,000,000 pounds in 1903.

This increase in the shipments of green tea from Ceylon and the rise of India in the black-tea business has resulted in the depression of the tea trade of China. It has not been accomplished without sacrifice on the part of the Ceylon growers. According to the authorities they have spent for advertising alone \$825,000 gold. This policy has been entirely out of keeping with Asiatic methods and indicates foreign influence, but the effect as felt here in China has been so marked that Chinese tea men appreciate the fact that they will soon have to inaugurate some policy to combat it.

Tea consumers who are best acquainted with the respective merits of Indian and Chinese tea esteem Chinese tea the more highly. They claim that it is milder in flavor, less likely to lead to tea poisoning, and of better quality in other respects. It is not so strong and does not appeal to those who seek cheap, gross grades of tea. It is confidently believed by tea men that if the Chinese product is presented to the world as well as the Indian product has been the result will be the complete rehabilitation of China as the leading tea-producing country.

There is also need of a more economical management of the crop. Most Chinese tea is produced in small fields, mere patches. It is sold by the producer to a middleman, who, in turn, sells it to a higher middleman, and the process of gathering and selling continues until often there are four or five profits between the producer and the firer and exporter. This multiplicity of profits is a constant drain on the crop, and it is a useless drain. The methods of working with the leaf also are faulty, and labor-saving devices can be introduced with advantage, not only in reducing the cost of the product, but also in improving its quality. A little money expended by the tea interests would enable the Chinese tea grower to be so educated that he could produce a far better article for the same or less expenditure.

Chinese tea can be produced cheaper than Indian tea. With the reduction of duty made previous to last year, the cheapest grades of Indian tea can be produced for about 12 cents per pound, while a similar grade in China can be had for from 9 to 10 cents per pound. This great advantage can be maintained if the proposed advertising campaign of the Chinese tea interests is made.

The immediate abolition of all internal taxation on tea before it reaches the foreign exporter, which is very heavy, is one very important requisite for the salvation and development of the trade.

There was a falling off of about 20,000 chests of tea in the exports from Hangehau this year, tea for a large district hereabout going to

the coast by way of this port. The quality was comparatively poor. In fact experts generally agree that there has been marked deterioration in the quality and "style" of all Chinese teas in the past twenty years, except Ichang tea. While the Chinese tea producers have been slow to heed advice and are not disposed to adopt new ideas and methods, the necessity of doing something is gradually forcing itself upon them, and it is now thought that they will take some definite forward step before the next tea crop comes in.

The present tax, in spite of the reduction of the export duty by half in 1902, amounts to fully 12½ per cent, and the likin duties imposed at some places in the interior amount almost to the former full duty of 25 per cent on common tea. It seems remarkable that any export duty should be maintained upon this article, in view of the fact that Indian teas, which are not taxed, are rapidly driving the Chinese product out of every market of the world, in spite of the fact that it costs more to produce them.

The proposed campaign of advertising and education is absolutely necessary for China's great tea industry.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *November 29, 1904.*

CAUSE AND SYMPTOMS OF ANTHRAX.

(*From United States Consul Mahin, Nottingham, England.*)

A recent outbreak of anthrax among leather workers in this country has caused some alarm, and has led to investigations producing results of general interest.

The bacilli of anthrax, it is explained, are generally inoculated into the system by scratching with the finger nails an itching spot, usually on the cheek. Anthrax appears usually as a ring of external malignant pustules, though many cases occur of internal sores through inhaling the dust from the skins and horse hair in process of manufacture. Hitherto most of the cases of anthrax in this country have been caused by Russian horse hair and hides. The present outbreak is said to have been caused by goatskins from South Africa. Should this prove to be correct the board of agriculture has power to prevent the further importation of such hides until proper measures are taken to stamp out the disease in South Africa.

In no case are animals suffering from anthrax in the United Kingdom allowed to be moved. They must be slaughtered at once and the entire carcasses buried in quicklime. This procedure is invariably followed.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *December 17, 1904.*

TRADE MART OF SANTU, CHINA.

(From United States Vice and Deputy Consul Gracey, Fuchau, China.)

THE PORT OF SANTU.

The treaty port of Santu, or, as it is officially styled, the "Trade Mart of Santuao" (Santu Island), was opened to foreign trade by the Chinese Government May 8, 1899. It is situated on the southwestern point of the island of Santu, the largest in the Samsa Inlet (26° 40' N., 119° 39½' E.), in a magnificent harbor with safe and deep anchorage. It is 77 miles by sea from Fuchau, the provincial capital of the Fukien province, and about 50 miles from the prefectural city of Funing. It is a part of the consular district of Fuchau.

The new port has practicable waterways to the cities of Fuan and Funing, the two magistracy towns of Loyuanhsien and Ningtehsien, and the large towns of Yentai, Paishi, Putu, Fuluan, Tungchung, Komen, and the village of Wanyao, where china bowls are manufactured in large numbers. An effort is being made, I understand, to divert the existing junk trade to steamers, and with the exploiting of the hinterland the place should become an important center. The harbor has been described as the best and safest in China. At the island of Santu there is good harborage over 4 miles in length by 1 mile in width. Anchorage can be found of from 1 fathom to 25 or more fathoms, the average depth being from 5 to 10 fathoms.

The Samsa Inlet, on account of its picturesque scenery, has been described as a miniature inland sea of Japan. The basin was surveyed by the British ship *Waterwitch* in 1899, the work covering an area, exclusive of islands, of over 400 square miles, subject to a tidal difference of 24 feet, spring tides. The survey occupied over four months and an admiralty chart has been published. No new sunken rocks were discovered, and the harbor, being sheltered by mountains on all sides, is unquestionably one of the best in the East.

Mr. McAllum, acting imperial commissioner of customs, suggests that a dock, either on Santu or on the more central island of Matsu, and a fort for Cone Island would be advisable, and states that they are contemplated by the authorities. There has also been some talk of transferring the present Fuchau arsenal to this place, and the erection of a dock by Japanese has been contemplated, though no action has apparently been taken during the past five years since the port was opened. A Chinese subprefect is situated at Santu, and has jurisdiction over all the natives resident on the island. The lack of telegraphic communication would seem to be somewhat of a drawback to the port and an obstacle to the increase of trade, but this will doubtless be remedied by the Chinese authorities in due time. An excellent postal system is in operation, Santu being one of the central

points of the imperial Chinese postal system, and having a large number of postal offices under its jurisdiction.

There are two foreign-owned honges, three buildings belonging to the imperial maritime customs, and one private residence, which constitute the entire collection of buildings in foreign style. A fine stone bund, about a quarter of a mile in length, and a strongly built stone jetty 500 feet in length, costing \$4,410, have been built by a public board under the joint control of the Chinese authorities and the commissioner of customs. This board controls the making of roads, extension of settlement, etc. Wharfage dues of 2 per cent of the customs valuation on imported and exported goods are levied for this purpose.

The value of trade in 1902 (last reports published) was substantially in excess of that in the previous year, the total being \$968,230, or \$172,620 greater than in 1901; but tea constituted nearly the total export of the port.

SANTU AND FUCHAU TEA TRADE.

A large part of the tea shipped from Fuchau comes from the districts surrounding Santu. Mr. C. A. McAllum, in a report published in the customs returns for 1899, says:

It is the natural center of tea districts aggregating a yearly total of some 300,000 chests. With waterways to three large cities (in the inlet) and with a heavily populated hinterland for transit trade, Santuao offers advantageous openings for the investment of foreign and native capital.

I have discussed the matter with the principal tea merchants of Fuchau, who are unanimously of the opinion that the transfer of the tea trade to Santu could never occur. The trade has been so long existent in Fuchau and is so well known to the merchants of America and Europe that such an uprooting would be quite out of the question. Honges, godowns, factories, offices, etc., have been established for many years in Fuchau and are supplied from other districts as well as Santu. Not to mention the gradual decay of the trade itself, the thought of such a transfer seems absurd.

SANTU ISLAND.

The island of Santu is about 6 miles in length by about 2 miles in width at its widest point. It consists of two chains of hills, the most western terminating in a mountain 1,476 feet in height, named by the *Waterwitch* survey, in honor of the commissioner then resident at that port, Mount McAllum. The second range terminates in another mountain, named by the same survey Mount Stephens, in honor of the harbor master. Lay Rocks were named in compliment to the commissioner at Fuchau, and Sampan Island, Crag Island, Mud Island, Peak

Island, Fir Tree Hill, etc., received their distinctive names from geographical peculiarities.

The port is not confined to the island of Santu, but embraces the entire inlet which, with its imposing fiords and extensive branches, covers an area of 200 square miles, and extends from Castle Point (Wukaip'o) on the peninsula of Tungehung to the entrance of the Fuan River. The places at which shipment and discharge of cargo must take place are confined to points between the southwest point of Crag Island (Chingsan) and Olive Island (Kalanhsu) to west of Santu Island.

Several small villages are located on the island, but are considered of no commercial importance. The total population is about 8,000, the natives forming a poor and primitive agricultural community, with few wants, confining themselves principally to the cultivation of sweet potatoes, with small quantities of maize, rice, and peanuts.

PRODUCTS OF THE COUNTRY.

Santu is of importance principally because of the country surrounding the city. This section produces sugar, tobacco, tea, wood oil, second quality paper, indigo, hemp, camphor wood, coarse chinaware, and opium.

Kaolin of the purest quality is found here in inexhaustible deposits, and although the existing primitive potteries are content to turn out the commonest ware, the clay is capable of producing, under more skilled labor, chinaware equal to the best from Kiukiang. The pottery now manufactured is exported to Niuchwang and the Shantung province, principally in the form of bowls, about 700,000 being shipped annually. The manufacture of bricks, tiles, and kindred articles could not fail to be remunerative, so available are material and labor, and all conditions seem favorable to the making of a high-grade cement.

Simple revolving seed-oil mills could be introduced profitably for the quicker extraction of wood oil, which is obtained here from the fruit (resembling a guava) of the t'ung tree, which grows in profusion. The oil, though of little value as an illuminant, is peculiarly adapted to decorative work. It is said to enter into the composition of Fuchau lacquer, and the soot resulting from its ignition under certain conditions is used to make india ink.

Several species of *Conifera*, *Boswellia*, and *Rhus*, from which valuable resins may be obtained, are indigenous. Timber can be exported.

The mineral wealth of the province is an unknown quantity, but the local geological indications are not of a promising character. Alum in considerable deposits is found near Funing.

The district around Fuan produces large quantities of opium, first introduced into Fukien at that place. There is probably a very restricted market for its Indian competitor.

Mr. Carey, present commissioner at Santu, informs me that he believes a large business could be built up at Santu, and in the inlet, in the growing of white potatoes for export to the Philippine Islands, the soil being red and sandy and well adapted to the cultivation of the tubers. He believes that at least two crops of such varieties as the Early Rose could be obtained every year. If some American firm would undertake to supply seed to the natives in large quantities at a nominal cost, on the condition that such vegetables as were grown should be sold exclusively to its agents, the inlet could be made to produce sufficient potatoes to supply not only the Philippine Islands but the entire East. There is a large and increasing demand for white potatoes throughout China, Japan, the Philippine Islands, and the Straits Settlements, and Mr. Carey believes that a large and remunerative trade could be easily built up with little trouble or expense. Sweet potatoes are now sold in Santu at \$1.50 Mexican "chop" currency (60 cents) per picul (133½ pounds). Any one desiring further information on this subject can obtain it by addressing the American consulate at Fuchau, China, or by communicating directly with Mr. F. W. Carey, commissioner of imperial maritime customs at Santu, China.

There is also an opportunity for a few small passenger and cargo launches to call at the smaller towns and villages throughout the inlet.

DEMAND FOR FOREIGN GOODS.

Owing to the small population on Santu Island it is evident that virtually the whole of the prospective imports must be transferred in boats under transit passes for Ningte, Funing, Fuan, or other places. From Santu west to Kiangsi and north to Chekiang extends a thickly populated and practically untouched area for transit trade. Pack animals are unknown, man being the substitute. Without doubt a demand exists for T-cloths, cheap shirtings, thread, yarn, hoes and iron implements, matches, white sugar, cheap and small lamps, sundries, and kerosene oil, wood oil costing 11 cents a catty (5 cents per 1½ pounds). If the merchants are supplied with transit passes there is no reason to anticipate in the northern half of Fukien those fiscal delays, tending to deter trade with the interior, which are said to obtain elsewhere.

STEAMSHIP COMMUNICATION.

Two lines of steamships are now running to Santu from Fuchau. The British firm of Jardine Matherson & Co. have established a hong at Santu, and the steamship *Columbia* has been running once a week throughout the tea season. It is proposed to touch at all the larger towns and cities in the inlet, calls being made at Yentai, Paishi, Putu, Ningte, Fuluan, Santu, Tungch'ung, Komen, and Loyuan.

The Osaka Shosen Kaisha also run a weekly steamship service

between Fuchau and Santu, and, owing to the subsidy allowed them by the Japanese Government, are able to compete very favorably with other lines.

Freight on tea by both lines seems to be about 40 cents Mexican "chop" currency (16 cents) per half chest. But even this is not a net rate, and when commissions and rebates are deducted the actual amount of freight accruing to the steamer is probably not more than 6 cents American currency per half chest, a rate which can hardly be remunerative unless, perhaps, full cargoes and quick dispatch is possible. I am informed, however, by the captain of the *Columbia*, that, although the ship has by no means had full cargoes during the tea season, the business has been remunerative, but it hardly pays to continue the steamship service throughout the winter when there is no tea being shipped.

PASSENGERS AT SANTU.

During the first half of 1904, 15 foreign and 2,099 native passengers arrived in Santu by steamship, and 21 foreign and 2,417 native passengers departed. During the same period of 1903 only 14 foreigners and 716 natives arrived, and 22 foreigners and 811 natives departed. The foreigners were doubtless for the most part missionaries on their way to and from inland stations, and the natives were probably chiefly people connected with the tea business.

EMIGRATION.

Efforts have been made to encourage emigration to north Borneo and Mexico, but the evil reports from Madagascar which were brought home by the few survivors who went thither from this district in 1901 made such a deep impression and created so great a fear of going abroad to unknown parts, that, in spite of the poverty and squalor and the overcrowding of the land, no emigrants, it would seem, have been tempted to go to either of the countries named.

WILBUR T. GRACEY, *Vice and Deputy Consul.*

FUCHAU, CHINA, *September 15, 1904.*

COTTON GOODS TRADE OF CHINA.

(From United States Consul Anderson, Hangchau, China.)

The more the cotton situation in China is considered the more certain it becomes that American manufacturers must pay strict attention to the special needs here in cotton goods if they are to hold the trade they have, not to speak of expanding it. That there has been a decrease in the use of some American goods, such as sheetings and T cloths, is unsatisfactory, but the real need of China for

cotton goods has as yet scarcely been appreciated in the United States, much less have there been efforts made to meet it. Goods of the class now sent are almost luxuries to the Chinese. There will be an increasing demand for this grade of goods in the future, and as the purchasing power of the people increases the demand will be likely to grow at a much more rapid rate. Yet the mass of Chinese people are using little or no foreign-made goods, American or others. Time was when a large portion of the population took what it could get in the way of foreign-made goods, and did without anything when it was unable to buy such goods. In the past few years, however, the situation has changed amazingly. The change is of permanent significance.

In 1903 the total value of cotton goods imported into China, according to the customs returns, was 128,620,004 *haikwan* taels (\$90,034,002). Since 1902 the imports of fancy goods had increased from 16,074,092 *haikwan* taels to 19,320,246 *haikwan* taels (\$11,251,864 to \$13,524,172); plain fabrics, shirtings, sheetings, jeans, drill cloths, and the like, fell from 19,015,300 pieces, valued at \$40,464,942 in 1902 to 13,835,506 pieces, valued at \$29,998,895, in 1903. At the same time cotton yarns increased from 2,447,971 *piculs* (326,314,534 pounds) in 1902 to 2,738,448 *piculs* (365,035,118 pounds) in 1903, an increase of 12 per cent in quantity in spite of the increased prices shown by 23 per cent increase in value.

The high price of cotton in the United States and abroad generally last year resulted in the decrease of American cotton exports to China, and the present prices in the United States are having the same effect this year, for, while the figures for 1904 are not yet complete, it is evident from the data to be had that there is the same general trend in the cotton trade. The practical meaning of the matter is simply that when foreign-made cotton goods get too dear the Chinese peasant buys cotton yarn and weaves his own common fabrics for shirts, tunics, bedclothes, and the many purposes for which such grades of cotton goods are used.

The increase in the importations of cotton yarn, as above noted, tells only a part of the story. Practically all of the cotton manufactures of China run to yarns, and the reason is that the Chinese consumer finds it cheaper to weave his own cloth from the manufactured yarn than it is to buy the cloth from the foreigner. According to the figures given by the statistical secretary of the imperial maritime customs in his annual report of 1903, cotton yarn in 1872 formed 6 per cent of the total value of all cottons imported. In 1882 it was 20 per cent; in 1892 it had risen to 42 per cent, and in 1902, in spite of the fact that local cotton mills in almost every part of China are turning out immense quantities of cotton yarn, the quantity of cotton yarn imported was 52 per cent of the total cotton imports. In 1903 the per-

centage rose to 53, and there is abundant reason to count upon a still higher percentage in 1904. The loss of trade shown by these figures has been felt by all nations except Japan. The increased importation of drill cloths, sheetings, T cloths, cotton flannel, and other cotton cloths from Japan has been marked and still continues. Moreover, the increased importation of cotton yarn has also been to the benefit of Japan, 66,321,300 pounds having been imported in 1902 and 110,854,100 pounds in 1903. Present indications are, however, that there will be a falling off in the imports of Japanese yarn this year.

COTTON PRODUCTION IN CHINA.

The possibilities of cotton production in China are enormous. For many years the staple has been produced in the Empire at points covering nearly half of its immense territory. Much of this land is not suitable to cotton raising, but the amount that is suitable, between hills, where the soil is constantly being rehabilitated, and in the river plains, where more intelligent cultivation would bring soil of great fertility into use, is certainly sufficient to supply the needs of China and permit of the raising of much for export. The Empire, however, at the present time, and, perhaps, for a long time in the future, can not afford to raise cotton on most of this land, which is required for food to support the immense population covering it. Imported food is more costly than imported cotton. So long as this continues to be the case China, of course, will buy a great deal of foreign cotton. If it can be had cheaply in the shape of a finished product, it will be bought in that shape. If it can not be had cheaply it will be bought in the shape of yarn, and the rough hand looms of the natives will do the rest.

As a matter of fact there is a vast amount of cotton which never leaves the district in which it is produced. It is grown, gathered, ginned, spun, dyed, woven, and worn by the people. It gets into no trade reports; it is no part of the statistics of any government. It is doubtful if even an intelligent estimate of the amount of cotton used in China can be made. Local cotton fields hereabouts are supplying local cotton-yarn factories with 70 per cent of their raw material. Cotton from India makes up the remainder. It is probably a fair estimate to say that this proportion will hold good in nearly every part of China. In the southwestern portion of the Empire most of the cotton used comes from the Shan States. About Hankau practically all of the cotton is of local production.

Generally speaking, Chinese cotton is of low grade and probably will never be suitable for high-grade goods even under the most intelligent manipulation. The plants are stunted in appearance, seem to lack vigor, and the bolls are comparatively small with short and uneven fibers. The plants are apparently free from disease, probably due to cultivation in small fields, almost patches, and that cotton is not

a regular crop with many farmers. The soil is fertilized in the manner common to Chinese fields, but to me it looks as though the land needs a good subsoil plowing and a crop or two of legumes.

In China the growing of cotton seems to follow the law of supply and demand more quickly than elsewhere. So long as the natives can secure cotton goods abroad cheaply they raise little cotton, and much of what they raise goes to fill their wadded clothing and bed clothing. But high-priced cotton abroad is followed immediately by a widespread increase in its cultivation here, and the climate of a large portion of the Empire is such that the people do not have to wait for another season to roll around before they commence to seek relief.

The increased importation of cotton yarns and fancy cotton goods probably indicates the direction to be taken by American cotton manufacture for export to China. In the way of fancy goods cheap "Turkish" towels in small sizes are demanded. Goods made in imitation of silk, even very cheap imitations, are popular, especially for outer garments. There is a growing demand for handkerchiefs, plain, dyed, and printed. The use of cotton flannel is increasing and imports thereof are increasing. In short, the Chinese are buying more and more goods of the sort they can not make at home, but the common grades which can be made here or which can be substituted by homemade goods must be cheap if they are to sell in China.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *November 29, 1904.*

CANADIAN NOTES.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

Bids wanted for lift lock.—Tenders are being invited by the Dominion government for the construction of a \$200,000 lift lock at Kirkfield, Ontario, on the Trent Canal. The lift will be 10 feet less than that at Peterborough. The towers will be constructed of steel.

Flour trade of Bermuda.—The Halifax Maritime Merchant says: "Last year Canada had about one-fourth of the flour trade of Bermuda. This year she enjoys seven-eighths of it—a big increase. This is because a great deal of the flour used there is high grade, and it is in high-grade flours, particularly, that Canada is able to compete to advantage with the United States."

Wholesale grocers' terms.—It is reported that twenty wholesale grocers in Nova Scotia have formed a combine with regard to sale terms, and have given notice to customers by circular that on general groceries 1 per cent discount will be allowed for cash in ten days, net payment to be made in thirty days, and that interest at 6 per cent per annum will be charged on all accounts not settled within thirty days.

Electrical manufactures.—The Canadian Westinghouse Company has just closed a contract with the Grand Trunk Pacific Railway Company to provide air brakes for the rolling stock and equipment of the Transcontinental Railway, to cost \$700,000. The new buildings of the company will soon be ready for occupation. They will be devoted to the manufacture of electrical machinery and appliances, and it is anticipated that by April next this department of the enterprise will be in full operation, employing from 800 to 1,000 hands.

Land sales.—The Canadian Pacific Railway Company disposed of 28,982 acres of land in western Canada during November for \$104,843, or an average of about \$4.50 per acre. During the first ten months of 1904 the Canadian Northwest Land Company disposed of 38,250 acres for \$256,000, an average of about \$6.50 per acre. Land sales by these companies are reported to have been not so active during October as in previous years, but the average prices realized are the highest on record.

Strike settled.—The workmen of the Dominion Iron and Steel Company at Sydney, Cape Breton, who have been on a strike for several months, have signed a three years' contract submitted by the owners. The contract binds the men to allow the company to dispose of its coal whenever and wherever it wishes. Such a clause is looked on by the mainland miners as prejudicial to their interests, as it practically cuts off any possibility of the Cape Breton colliers joining in a sympathetic strike in favor of the mainland lodges. With the working of double shifts in the plant many more men will be given employment. Large numbers are being taken on daily, and many who were working at inferior jobs since the strike last summer are being promoted to better positions. For the first time since the plant was started the entire battery of ten open-hearth furnaces will shortly be put in operation, and the blooming and other mills will be required to work to their full capacity. The increased activity at the works is the cause of much rejoicing in the city, and the citizens look forward to a prosperous year in 1905.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *December 30, 1904.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

The following notes concerning business opportunities abroad are derived from various German sources:

RAILROADS AND BRIDGES.

Argentina.—A connecting railroad is to be built from Nueva Roma to the Ferrocarril del Pacífico, Argentina. For particulars apply to the Ministerio de Obras Públicas in Buenos Aires.

Chile.—The ministry of public works in Santiago, Chile, will receive proposals for building a railroad line from Animas to Los Pazos, Chile.

Portugal.—Projects for the building of the bridges along the Mirandella-Bragança railroad line have been approved by the Conselho de Administração dos Caminhos de Ferro do Estado, Lisbon, Portugal.

ELECTRIC RAILWAYS.

Egypt.—The Alexandria Tramway Company, Alexandria, Egypt, has received permission to build several tramway lines in that city.

England.—The city of South Shields, England, contemplates the construction of electric tramways.

Germany.—The Frankfort Gazette announces the construction of an electric railroad to connect the city of Mannheim with the town of Duerkheim, Germany.

Portugal.—The Companhia Carris de Ferro de Lisboa, in Lisbon, Portugal, has applied for a concession to build several electric street railroads in that city.

Spain.—An electric tramway is projected in Cadiz, Spain, by Ubaldo Fuentes Birlaya.

ELECTRIC LIGHTING.

Egypt.—The authorities of Suez have entered into a contract with G. Beyts & Co. to erect an electric plant for lighting that city.

The town of Tanta, Egypt, is to contract for an electric lighting plant.

Spain.—The municipality of Villeneva y Geltra in Spain is open for proposals to light the town by electricity.

CONSTRUCTION AND MACHINERY.

Austria-Hungary.—The city of Budapest, Hungary, intends to have a gasometer of 23,000 cubic meters (912,233 cubic feet) capacity constructed; estimated cost, \$113,000.

Belgium.—A coal elevator for the gas works at Brussels, Belgium, is to be built.

Egypt.—The controller-general of ports and lights administration at Alexandria, Egypt, will receive bids for the construction of a light-house at Sanganed Reef, near Suakin.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, December 15, 1904.

BY-PRODUCTS FROM SUGAR FACTORIES.

(From United States Consul Haynes, Rouen, France.)

Two of the by-products of sugar factories are utilized in France—the pulp from the presses, and the drained treacle, or the molasses from which no more sugar can be obtained by the ordinary processes of crystallization. The pulp serves as food for animals, and is sold to farmers at 6 francs (\$1.16) for 1,000 kilograms (2,204.62 pounds), or about 5 cents per 100 pounds. It is preserved in silos, being mixed with beet-root leaves. The drained treacle is sold to distillers, or to foreign “sucreries,” which are operated for the purpose of extracting the small amount of sugar remaining. In France there are two of these “sucreries.”

The French fiscal system is such that it is more to the sugar maker's interest to sell the drained treacle to the distiller than to submit it to the osmose, lime, baryta, or strontian process, all of which flourish in Germany. This treacle can be employed in very limited quantities in industry, such as the manufacture of wax, dyeing preparations, molds for castings, ordinary bonbons, gingerbread, etc.

Sugar factories produce abundant quantities of residuary water which the Government obliges the proprietors to purify. This purification, when done intelligently, is effected most economically by the Gaillet and Huet process, which yields lime sediments rich in phosphates. The process as employed at the central sugar factory of Flavyle-Martel is as follows: A large cask is filled with a solution of chloride of lime, which, by a regulated opening or spigot, is allowed to run into a basin containing the water to be purified. The mixture is allowed to run for some distance when whitewash is allowed to drop into it regularly from a mixer. By this method lime sediments extremely rich in phosphate elements are obtained.

In the manufacture of sugar from cane in the French colonies there is a by-product called “bagasse,” which we know as pulp. This fiber, analogous to that of wood, is employed as a combustible in heating the generators of the factory, as well as for steam development when necessary. It is first dried, a process which in wet weather could become very costly, but there are special furnaces for the drying of the green pulp as soon as it comes from the mill.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *December 22, 1904.*

CHEMICALS IN SPAIN.

(From United States Consul-General Ridgely, Barcelona, Spain.)

Spain's increasing consumption of chemical products is the subject of considerable commercial attention at present. The imports of chemicals in 1870, 1880, 1890, and 1903 were 94,299,056 pounds, 110,960,577 pounds, 150,906,268 pounds, and 644,248,735 pounds, respectively. The imports of chemicals, including oleaginous seeds, into Spain in 1903 were as follows, in metric tons of 2,204.6 pounds: Oleaginous seeds, 33,906; colophony, bitumen, and other similar resinous products, 2,188; feculas for industrial purposes, 11,991; chemical products, not otherwise stated, 4,179; dye extracts, 3,528; colors in powder or cubes, 2,103; hydrochloric, nitric, and sulphuric acids, 513; sulphur, 6,505; caustic soda, 17,545; alkali carbonates, sodas, alkalies, and salts of ammonia, except the sulphate and caustic soda, 16,990; chlorides (except sodium chloride), 3,771; sulphates of potash and ammonia, nitrate of soda, phosphates of lime, salts of Stassfurt, and Thomas slag, 186,360; sulphate of copper, 2,687; total, 292,226.

The cultivation of the sugar beet and the employment of chemical fertilizers in the beet plantations have largely given rise to the constantly increased consumption of chemical products. It should be noted in this connection that while the import of these products has been so steadily growing, their local manufacture has also steadily increased and will attain considerable importance when all the factories now in course of construction and those projected have been put into active operation. The last statistics in respect to these factories—those for 1902—show the following to be in operation in Spain: Twenty-three of sulphuric acid, 21 of turpentine, 17 of varnishes, 11 for distillation of ammoniacal waters, 20 for distillation of tar and similar products, 13 of essence of flowers, 32 of perfumery, 15 of carbon sulphide, 26 of inks, and 54 laboratories of chemical and pharmaceutical products. At first glance it would appear that the factories above enumerated would be quite able to supply the demand of the whole Spanish Peninsula, but that this is not the case is at once proved by the large and constantly increasing import. In this connection the *Journal España Económica y Financiera* says:

What we are afraid of, and what has been shown by experience in more than one case, is that the national product, while being cheaper than that of other countries, is of inferior quality, which fact dissuades the consumer, obliging him to seek the goods in foreign markets, thus favoring the foreigner instead of his countrymen. The general public wish to pay little, but the greater part of them are always willing to pay what price is demanded, provided they obtain goods of good quality.

The imports of chemicals into Spain, by countries and principal articles, were as follows in 1903: British Asia, 39,979,909 pounds of oleaginous seeds (more than one-half of the whole); France, 4,513,932 pounds of dyestuffs, tannic extracts, etc. (70 per cent of the whole); Germany, 2,470,140 pounds of paint in powder and cubes (more than one-half of the whole); Italy, the greater part of the sulphur; Great Britain, three-fourths of the caustic soda; France and Great Britain, three-fourths of the carbonates; Great Britain, nearly all the sulphate of copper; France, 8,818,489 pounds of chloride of lime; Belgium, 43,800,000 pounds, France, 140,200,000 pounds, and Great Britain 154,800,000 pounds of sulphates, nitrates, salts, and scoria; Germany one-half and Holland one-third the fecula; United States, one-half of the vegetable wax and crude paraffin.

BENJ. H. RIDGELY, *Consul-General*.

BARCELONA SPAIN, *December 13, 1904.*

CHEAP RAILWAY TRAVEL IN BELGIUM.

(*From United States Consul McNally, Liege, Belgium.*)

Persons contemplating a European trip and desiring to see the many points of interest throughout Belgium may be interested in the fact that the Belgian State Railway has for sale tickets which enable one to travel continuously, if desired, for the time specified thereon, within the limits of the country. For instance, a five-day ticket will cost 20 francs (\$3.86) and a fifteen-day ticket 40 francs (\$7.72). During the life of one of these tickets it serves as a pass, and it is only necessary to show it upon request. The above rates refer to second class only. All that is required to obtain these tickets is to present at the office an unmounted photograph of small size, which is attached to the ticket as a means of identification. When the ticket is purchased an extra 5 francs (96.5 cents) is demanded for the safe return of the ticket after its term of usefulness expires. On the morning after the expiration of the ticket it can be delivered at any ticket office along the line and the 5 francs extra will be returned. This system enables one to travel at a minimum expense.

It is well to know also that a charge is made for all baggage, with the exception of hand luggage, which can be carried in the compartment. The racks are usually filled, and from the size of the bags and bundles it is evident that the authorities are not strict in enforcing the baggage requirements. The charge for a trunk or box is about half the fare of the passenger traveling second class, which is always the popular grade in Belgium and comfortable in every way.

JAMES C. McNALLY, *Consul*.

LIEGE, BELGIUM, *December 8, 1904.*

OPPORTUNITY FOR PIT WOOD EXPORTERS.

(From United States Consul-General Ridgely, Barcelona, Spain.)

The increasing exportation of pit wood from Spain to the Bristol Channel ports of Cardiff, Barry, Newport, Swansea, and Port Talbot, recently led me to investigate the British demand for this commodity, with the idea of calling the attention of American timber exporters to the opportunity of establishing a market for American pit wood in Great Britain. Pit wood is used for propping up and supporting the roofs of the galleries of coal mines. I find that the quantity annually imported, with the bark on, from France, Spain, and Portugal into the ports above named is about 1,000,000 tons.

The wood is shipped in the following three lengths: 6½, 9, and 13 feet; the diameters at the small end being 4 to 7, 5 to 9, and 8 to 12 inches, respectively. The proportions shipped are 30, 60, and 10 per cent, respectively. The timber is sold by the ton and is weighed by the dock company at each of the receiving ports. The price varies from 17s. to 18s. 6d. (\$4.01 to \$4.50) per ton net, but is governed entirely by the law of supply and demand. These are fair average prices, however, and contracts could be arranged at about 18s. 3d. (\$4.44) per ton for delivery in about equal fortnightly quantities over twelve months.

There are also very large imports of wood with the bark off into the same ports from Norway, Sweden, and Russia, amounting annually to 300,000 to 400,000 tons.

Writing me on the subject, an important pit-wood importer of Cardiff says:

We feel certain that a personal interview with a large exporter would, if the prices are good enough, lead to an enormous business. We may also mention that some negotiations have been commenced with Canadian exporters, and in fact wood has come from Canada, but as the steamers do not come direct to the ports we have mentioned, but to Bristol, the transfer charges and freight charges simply kill the business. Otherwise the Canadian wood would have been brought here.

I am also advised that the supply of pit wood with the bark on from Spain and France is frequently uncertain and insufficient. If the matter interests any of our timber exporters, they have only to communicate with the undersigned, who will gladly refer their letters to important importing firms at Cardiff.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *December 23, 1904.*

TRADE OF ICELAND.

(From United States Consul Frazier, Copenhagen, Denmark.)

NEW CABLE LINE.

In the last two annual reports from this consulate reference was made to the agitation in favor of the establishment of cable communication with Iceland. The movement has resulted successfully. By agreement with the department of public works of the Danish Government at Copenhagen, the Great Northern Telegraph Company will undertake to lay a cable from the Shetland to the Faroe Islands and thence to Iceland. The company has received a concession for twenty years from the date of the completion of the cable, which is to take place not later than October 1, 1906.

The new cable will be landed on the east coast of Iceland and will connect overland with Reykjavik, the only city of importance. The telegraph lines connecting the cable with Reykjavik will be constructed, owned, and managed by the government of Iceland. The Great Northern Company will, however, contribute to the original cost of construction of the land lines. During the concession for the management of the cable proper the company will receive a yearly subsidy of \$14,472 from the Danish treasury, and \$9,380 from the colonial government of Iceland. Tariff charges for use of the cable will be determined by the Danish ministry of public works.

The promoters maintain that as Iceland is a storm center, the greatest immediate advantage to result from the construction of the cable will be to shipping interests on the Atlantic in a scientific way, as meteorological data from Iceland and the Faroes will be received and reported daily.

One thousand years ago Iceland possessed the most advanced culture of any northern country. It will be the last of the old highly civilized communities to be brought under the quickening influence of instant communication with the other civilized countries. Stimulating as will be this new influence to social and commercial life, it is from a purely material point of view that the enterprise is of greatest immediate significance to the people of Iceland. Of the 78,470 inhabitants on the island (1901), 27 per cent are supported directly by fishing and whaling; the products of the fisheries, including whale and shark oil, constitute 64 per cent of the value of the export trade. The ancient barter system is being rapidly abandoned and the products of the fisheries are now, to a large extent, disposed of for cash. It is, therefore, of much greater importance than formerly that those engaged in the fishing industry be relieved from the disadvantage of ignorance of current prices in the great fish markets of Europe at the time sales are negotiated.

TRADE OF ICELAND.

The value of the foreign trade of Iceland in 1900 was \$4,878,118, of which \$2,469,945 represent imports and \$2,408,173 exports. The average value of the trade for the five years 1895 to 1899 was \$3,833,275, of which \$2,084,393 represent imports and \$1,748,882 exports.

The above figures from official Danish statistics differ somewhat from those supplied by British Consul Vidalin, of Reykjavik. From statistics supplied his Government by Mr. Vidalin, the following tables are compiled:

Value of imports and exports of Iceland, 1896 to 1900.

Year.	Imports.	Exports.	Total.
1896.....	\$2,238,782	\$1,911,969	\$4,150,771
1897.....	2,239,689	1,781,601	4,021,290
1898.....	1,988,324	1,787,617	3,775,941
1899.....	2,231,354	2,077,324	4,308,678
1900.....	2,507,902	2,571,917	5,079,819

Value of imports and exports of Iceland, by countries, in 1900.

Country.	Imports.	Exports.	Total.
Denmark.....	\$1,568,006	\$737,261	\$2,305,266
United Kingdom.....	684,152	913,851	1,598,003
Sweden and Norway.....	212,978	345,020	557,998
Spain.....		350,753	350,753
Italy.....		169,865	169,865
All other.....	42,767	55,167	97,934
Total.....	2,507,902	2,571,917	5,079,819

Value of exports from Iceland, by commodities, in 1900.

Commodity.	Value.	Commodity.	Value.
Salt cod.....	\$821,626	Wool.....	\$196,665
Whale oil.....	491,950	Salt mutton.....	120,879
Salt haddock.....	197,726	Sheep, living.....	87,452
Salt herring.....	53,980	All other articles.....	529,799
Shark oil.....	35,477		
All other fish and oil.....	36,363	Total.....	2,571,917

Value of imports into Iceland, by commodities and countries, in 1900.

Commodity.	From—			Total.
	Denmark.	United Kingdom.	All other countries.	
Barley	\$69,688	\$13,514	\$5,446	\$88,648
Bread and biscuits	29,780	11,670	1,416	42,866
Butter and margarine	18,906	4,277	3,476	26,659
Cereals, not otherwise specified	45,210	8,497	6,209	59,916
Chicory	32,718	915	1,161	34,794
Clothing, ready-made	66,281	7,523	2,712	76,516
Coal	21,802	166,595	13,967	202,364
Coffee	80,720	8,799	5,621	95,140
Corn brandy	52,388	1,304	5,555	54,247
Cotton and linen goods	76,599	39,580	1,629	117,808
Flour	21,121	14,045	3,241	38,407
Galvanized and corrugated iron	3,080	12,415	429	15,924
Glass and crockery	3,222	457	93	3,772
Hardware	74,789	6,667	7,948	89,354
Leather and hides	23,063	925	769	24,757
Petroleum	17,763	28,615	1,606	47,984
Rice	54,407	8,443	4,702	67,552
Ropes, lines, and twine	27,870	19,189	7,548	54,607
Rye	71,868	993	3,411	76,272
Rye meal	111,891	1,577	6,306	119,774
Salt	14,867	69,848	36,684	121,439
Soap	15,207	3,275	824	19,306
Spices, dried fruit, etc.	46,991	4,633	803	52,427
Spirits, wine, and beer, not otherwise specified	40,300	4,930	603	45,833
Sugar, all kinds	150,672	23,807	6,282	180,761
Textiles, not otherwise specified	40,441	17,033	549	58,023
Timber	21,685	131	66,516	88,332
Tobacco and cigars	90,439	3,080	2,370	95,889
Woolen goods and cloth	30,231	8,906	11,402	50,539
Wheat flour	23,529	4,769	823	29,121
Other articles	190,587	187,700	50,644	428,931
Total	1,568,005	684,152	255,745	2,507,902

The imports into Iceland from Norway in 1900 were as follows: Timber, \$66,516; salt, \$23,422; coal, \$13,967; woolens, \$9,845.

TRADE OF ICELAND PER CAPITA.

The value of the foreign trade of Iceland in 1900 was \$812,721 greater than for the average of the five years 1896 to 1900, and \$1,689,202 greater than for the average of the five years 1891 to 1895. If comparison be made on the basis of population, the value of the foreign trade of Iceland is found to be far greater than that of any of the great commercial nations. Education is made compulsory, and there are no illiterates on the island. The standard of living is high.

In the statement of imports, articles to the value of nearly \$500,000 are not enumerated, and it is not possible from available statistics to indicate for what the Icelanders expend this money. It is known, however, that at least one article of American origin, namely, canned meat, which is not enumerated in the table, is consumed in large quantities.

OCCUPATIONS OF THE PEOPLE.

Of the 78,470 inhabitants of the island (1901), 39,803 were supported by agriculture, 21,340 by the fisheries, 4,253 by the smaller industries (hand work and industry), 3,117 by commerce, and 1,764 by day labor. There were 1,627 pensioners and 2,330 people receiving public aid.

MISCELLANEOUS INFORMATION.

The population of Reykjavik on November 1, 1903, was 8,000.

Steamers ply regularly between Copenhagen and Iceland, via Leith and the Faroes.

A new bank, styled "Iceland's Bank" has been organized in Reykjavik with a capital of \$536,000, so that Iceland now has two banking institutions.

There is a strong demand for direct steamship communication with the United States. Iceland consumes great quantities of American products, which reach the island principally through Scotland and England. American canned beef and Alaskan salmon are especially popular. As very little meat is produced, the Icelanders import preserved meats. America is the source of supply for kerosene. American-made shoes have been introduced, and there is a growing demand for them.

Iceland produces most of the world's supply of eiderdown, the annual sale amounting to something over 7,000 pounds. Most of this is shipped to Copenhagen and commands from \$2.41 to \$2.50 per pound.

Icelandic ponies are shipped in large quantities to Newcastle for use in the mines. They are also shipped to the United States.

RAYMOND R. FRAZIER, *Consul*.

COPENHAGEN, DENMARK, *December 20, 1904.*

COMMERCIAL AND INDUSTRIAL CONDITIONS IN PERSIA.

(From United States Vice-Consul-General Tyler, Teheran, Persia.)

ESTABLISHING TRADE IN PERSIA.

To pilot a new business successfully through the difficulties incident to its establishment in a foreign country it is necessary to take local conditions into consideration. It should be the aim of the trader not merely to supply the bare necessities demanded by unprogressive industries, but to further the general prosperity of the country. Too great conservatism is contrary to the trader's self-interest, which should lead him to see what is good in the old, but at the same time to be ever wakeful in observing the attractive aspects of the new. Thus an appreciation of the benefits of industry would be of great advantage to this country if it would lead those who consider labor degrading and oppressive to take an interest in mechanical substitutes for old methods. The introduction of agricultural machinery, even the simplest, would ameliorate the condition of the husbandmen and promote an increase of that class. Even more desirable would be the introduction of the lathe, the loom, and many other contrivances whose hum

and clatter have never disturbed the ancient repose of the Persian atmosphere.

Countries are made stationary or retrogressive as much by the lack of commercial rivalry as by the ignorance and indifference of the governing powers. But the questions of economic and industrial conditions of the national life, which so largely determine the quantity and quality of trade, hardly ever come into the merchant's calculations; he regards only the present condition of the retail trade. This unreasoning neglect has been too often in this country the source of loss and disappointment. It has accumulated stocks without buyers, and made supply the medium of arresting demand, thus giving to the world a commercial paradox. Few countries are similarly situated in regard to needs and the conditions of climate, intercourse, and means of approach; the people also have peculiar customs, institutions, and tastes; their domestic and social habits and customs largely influence their requirements. To exclude these considerations would be to ignore the first principles of trade. They are more important than the display of wares in the bazaars and market places.

Systematic observations should be made of the home life and the ordinary appearance in the different trades and professions, for it is the individual who determines what he shall wear. Classes are most punctilious in the particular form of their garments where religious doctrine asserts its preeminence over private judgment. The writer has known instances in which a very small departure from the prescribed apparel has been visited with the most humiliating and painful consequences. But although the figure and the appearance may be the same, the quality of the material may be of great variety, depending largely upon the means of the wearer.

The newcomer should also diligently observe the length of time goods are on show, and if he finds, as is frequently the case, that certain articles remain in the same place for months or even years, he may safely conclude that they are either too dear for ordinary use or unsuited for purposes of decoration, and should be excluded from his list. Another important matter is that the merchant should know his customers, their standing and reputation for commercial character and morality. Furthermore, he should use discretion in accepting advice, and not follow blindly the captivating plausibility of one class nor the indifference of another.

A common and disastrous mistake made by a new arrival is to aim as early as possible at large sales. To dispose of goods is easy at all times, but the settlement of accounts by the purchaser is often attended with many excuses and unsuspected delays. The trader in concluding a bargain, on credit, whether large or small, should remember that it has two sides, and although mutual interests may be evenly considered.

yet the customer is responsible for the one that requires the nicest adjustment.

Before settling the nature and extent of a business in Persia, a careful and comprehensive survey of the conditions of the country should be made. The investigator should observe the various existing agencies, native and foreign, the habits, customs, and manners of the people, the methods and the general results of trading, existing opportunities and openings in new directions, the prospective expenditures required and the delays before a profit may be realized, the present resources of the country, and the possibility of further development. Such a tentative examination would enable the trader to adjust his supplies to the demands of the situation and obviate the losses, disappointments, and failures which have overtaken many needed and hopeful enterprises.

The fitness of the agent is of more importance than is generally supposed, for in the exercise of his trust something more than a mechanical or routine education is required. Experience is a most valuable possession; he should also be pliant to accommodate himself to circumstances, business peculiarities, habits, and customs different from those of his previous experience. Penetration, resource, ingenuity, discrimination, industry, and devotion are the primary characteristics required in conducting a commercial establishment in Persia. The man intrusted with large discretionary powers in such an undertaking should have some more substantial interest in the business than a yearly salary or an uncertain commission, such as a pecuniary investment or the more coveted position of a qualified partnership. He should be so placed as to know and feel that, not only the name and reputation of the firm is in his safe-keeping, but that his future prospects are bound up in its success.

POPULATION AND TRADE.

So far as can be learned from observation and inquiry—for under present conditions no census is or could be taken—the population of Persia is comparatively stationary. If there had been an increase within the last ten years the ravages of the cholera epidemic during the past eight months would have considerably modified the figures. Teheran, the capital, has in the last thirty-two years shown an increase of probably 130 per cent, but this, owing to a variety of circumstances, is at the expense of other cities and rural districts. My estimate of the present population of Persia is from 12,000,000 to 13,000,000. This, however, is somewhat higher than the estimate generally given, which, for the last thirty-five years, has usually been 10,000,000. There are proofs that during this latter period trade, foreign and domestic, has grown considerably, evidence of either an improved condition of the people, which does not appear, or an increase in the population, which seems probable.

Persian trade has in general been confined to large cities, not taking a form that would recommend or accommodate itself to small towns or agricultural districts. No doubt the wants of these, as they have been understood for centuries, have been supplied, but without improving the position of the consumer. Silk, woolen, linen, and cotton stuffs, tea, coffee, sugar, and petroleum still form the staple Persian imports, and their price and quality remain practically unchanged. Where the lethargy of ages lies heavy on the individual, the object to give impetus to his prostrated energies must be stimulating, useful, attractive, and interesting. There are undeveloped resources other than in the mine, the forest, and the river which might be exploited and turned to advantage.

ARTICLES THAT FIND A MARKET IN PERSIA.

Most articles of ordinary use and general consumption, except heavy and cumbrous machinery, are appreciated and utilized in Persia. They have often been enumerated in these reports, yet for the benefit of those who have not seen former lists they may be briefly repeated. Fancy articles, especially novelties, cotton and woolen goods, glass and china ware, harness, leather, boots, shoes, saddlery, stoves, locks, other hardware goods, paper hangings, writing materials, lamps, clocks, watches, trinkets, drugs and consumable stores, carriages and bicycles, sugar, tea, coffee, and petroleum. Stocks of these articles can be found in the bazaars of Teheran and other cities.

EXPORTS.

The Persian products exported are pearls, turquoises, carpets, rugs, shawls, rice, dried fruits, opium, asafetida, wheat, skins, tobacco, cotton, and wool, the latter being exported in considerable quantities to the United States.

PACKING FOR PERSIAN TRADE.

The greatest attention should be paid to packing, whether the articles be fragile, perishable, or almost indestructible, for much of the merchant's profits, progress, and reputation depends on this. About a fortnight ago I was called to witness the condition of some ornamental stoves, sent from the United States, which had been packed in sections or parts, and which with proper material and care ought to have reached Teheran without any damage or blemish whatever. Chaff, the most unstable of articles for packing purposes, had been used and had filtered through the pieces to the bottom of the case, leaving delicate parts of iron and steel in close contact, with most disastrous results. There is nothing more convenient and better suited for packing material, for almost any article, than good tough straw, as it

retains its shape and position in spite of the jolts and jars which Persian transporters manage to impart to bales and cases.

TRANSPORTATION.

In the present condition of Persian transport, the information contained in the following extract from a letter written to me by Mr. F. W. Parry, the local director of the Ahwaz-Ispahan road, is of interest to importers of American goods, for it places the southern highway in very favorable competition with either the Bagdad, Trebizond, or Batum-Baku routes:

The year which is now coming to a close has been a very favorable one for the Ahwaz-Ispahan road. Animal transport has largely increased—in fact, it has already doubled last year's figures—and there appears to be every prospect that it will continue to increase. The advantages of this route are generally being appreciated by owners of mules and camels, and the strong conservatism which we had to deal with at first is being overcome. European and Persian merchants in Ispahan patronize the road largely, and appreciate the advantages, over the longer route of over 500 miles via Bushire, of the short land journey of 270 miles.

The average time occupied for transport of goods from Ahwaz to Ispahan is twenty-four days, and the rate of hire compares favorably with the Bushire route, as will be seen from the following figures, per 13 pounds weight: Ahwaz to Ispahan, 3.09 krans (24.41 cents); Ispahan to Ahwaz, 1.70 krans (13.43 cents); Bushire to Ispahan, 3.70 krans (29.23 cents); Ispahan to Bushire, 2.13 krans (16.83 cents).

The advantages of discharging cargo from sea steamers in a river, as at Muhammerah, over landing cargo in a barge from a bad roadstead, as at Bushire, and the advantages of a shorter land transport, are demonstrated by the better condition of the packages brought over the Ahwaz route on arrival at destination. Preparations are being made to keep that traffic open all through the coming winter.

TARIFF RATES.

Formerly all imports and exports paid a uniform customs duty of 5 per cent; but this, by a new tariff, put into operation in February, 1903, and published by the Department of Commerce and Labor in June of the same year, was superseded by specific duties; this new departure in the financial administration of Persia was supplemented and completed by a tariff act promulgated in September, 1904, a translation of which has been forwarded.^a

EXCHANGE AND BANKING.

As the Persian currency is now entirely silver, the question of exchange is always a matter of uncertainty. Fluctuations have to be taken into careful consideration, as they may affect adversely, especially in long credits, the merchant's transactions. Remittances may

^a On file in the Bureau of Statistics, Department of Commerce and Labor, where it may be seen by interested persons.

be more favorably and profitably made by means of produce or manufactured goods, providing a market can be found for their disposal, than by bankers' or commercial bills.

The Imperial Bank of Persia, an English institution, with the central office in Teheran, and branches and agencies in the principal cities of the country, has facilities for handling bills in almost any part of the world, and its rates of exchange are fair and equitable.

JOHN TYLER, *Vice-Consul-General.*

TEHERAN, PERSIA, *December 2, 1904.*

WELL-BORING MACHINERY AND PUMPS IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

There is a scheme on foot among a circle of Americans in Shanghai to secure a waterworks concession for Hangchau, if possible, in the near future. What will come of it remains to be seen; but consideration of the subject is important. Chinese cities generally are in great need of waterworks. In some of the larger cities, in times of dry weather, there is positive suffering. In practically all of them the water used is unfit to drink, and in many cases it is the cause of outbreaks of disease which result in the deaths of thousands of people. The Chinese do not appreciate the importance to health of looking after the water supply, but the conditions in many cities are such that the authorities are compelled to give it attention to prevent actual suffering from thirst. Whether the proposed efforts for Hangchau are to come to anything or not, the matter of water-supply establishments for a number of Chinese cities may well attract the attention of those interested in such matters in the United States.

There will be no difficulty in securing adequate supplies of water for most Chinese cities. Those in the river deltas are near great bodies of water-bearing gravel. The well or gallery system would probably be best for them; an ordinary driven-well system would probably give excellent service and would be cheap. The need of well boring and driving machinery in China was touched upon by Consul Martin in April, 1903, when he related his experience with the authorities of Nankin in relation to a well he had driven. Since that time appreciation of the benefits of a foreign waterworks system has been growing in this part of China, the practical example of Shanghai probably being the chief reason for the development of sentiment. There is good reason to believe that the authorities generally will be disposed to listen to any propositions looking for public improvements of this sort. At the same time the disposition just now is to keep all enterprises in Chinese hands and to use Chinese capital in their development. The field now opening up, therefore, is apparently more for well-boring machinery and waterworks plants than for waterworks corporations.

Incidental to this subject is the need of pumps, which in the ordinary life of China are practically unknown. The old system of drawing water from wells, which has obtained in Asia for many centuries, is still in vogue; but where pumps have been introduced they are welcomed and their utility is appreciated. One of the mission schools in Hangchau has an American wind pump and it is regarded by the Chinese people thereabouts as a wonder. Until the purchasing power of the Chinese is vastly increased, however, there will be little demand for wind pumps, owing to their cost. The grade which can be introduced in China must of necessity be simple and cheap; an article meeting these requirements ought to be received with favor immediately.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *November 30, 1904.*

PACKING GOODS FOR CENTRAL AND SOUTH AMERICA.

(From *United States Consul-General Winslow, Guatemala City, Guatemala.*)

I again call the attention of American exporters to the importance of packing their wares better. American goods of nearly all kinds are preferred here, when other conditions are anywhere near equal; but when the goods arrive in bad condition, and the American merchant refuses to make good the breakage, caused in most cases by insufficient packing, it is discouraging. As a result, the next time the merchant wants anything he goes to another market.

Time and again I have been informed by the merchants handling American goods that the American manufacturers or exporters neglect to pack goods as directed, and when complaint is made say that they are packed the same as for shipment to other parts of the world. Special attention should be given to instructions as to how to pack goods for all Pacific Ocean ports in Central and South America, as the conditions here are such that special packing is necessary. At most of the ports the steamers anchor two or three miles from the landing place. The freight is lowered into lighters by means of a steam crane and is then carried from the lighter to the pier, which extends out into the ocean from 700 to 1,000 feet. During this process, the steamers and lighters are at the mercy of the waves. Often the freight receives some very hard bumps against the sides of the steamer, or is unavoidably dropped into the lighter with a thud. I have seen this work done, and feel sure if the shippers understood the conditions, they would take great pains to give sufficient packing.

Everything breakable should be packed in strong boxes or crates, so that there can be no play of the parts. Straw or excelsior should be used and plenty of it. I feel sure, if this matter is given proper attention it will do much to increase trade with this part of the world.

I consider it of very great importance and I shall be pleased to answer any questions along this line.

ALFRED A. WINSLOW, *Consul-General.*

GUATEMALA CITY, GUATEMALA, *December 21, 1904.*

STEAMSHIP FREIGHT COMBINATION.

(From *United States Secretary of Legation Ames, Santiago, Chile.*)

In conversation with reference to a freight combination recently formed by all the steamship lines running between ports of Europe and the west coast of South America, the Santiago agent of an important American business house has suggested to me that the increased rates put into effect by the combination might make it expedient for European and west coast shippers to send their goods by way of New York, availing themselves of the various lines now running via the Straits of Magellan between New York and the west coast.

The lines that form the combination are The Pacific Steam Navigation Company, Lamport and Holt, the Gulf Line (Limited), and the Kosmos Line (Deutsche Dampschiffahrts Gesellschaft). Circulars issued by the combination, September 13, 1904, bear the names of these four lines, and can be obtained from their agents. The circulars referred to are "Pacific trade," "Trade to the west coast of South America, including Straits of Magellan—Notice to shippers," and "Amended rates and classification to come into force October 3." They offer a 10 per cent rebate on net freight on goods shipped by the lines of the combination, but the rebate is to be paid after a very considerable interval and only to such shippers as shall have confined their shipments in the meantime to the lines of the combination, and the new rates are, in general, I am informed, more than 10 per cent higher than the former competitive tariffs.

EDWARD WINSLOW AMES, *Secretary of Legation.*

SANTIAGO, CHILE, *December 5, 1904.*

INCOMES IN PRUSSIA.

(From *United States Consul-General Guenther, Frankfurt, Germany.*)

At the direction of the Prussian secretary of the treasury, the statistical bureau has prepared an income tax statistical statement, from which the following data are taken:

Incomes and income tax in Prussia, 1902, 1903, and 1904.

Year.	Total number of tax-payers.	Taxable net incomes.		Total income tax.	
		Marks.	American equivalent.	Marks.	American equivalent.
1902.....	2,437,886	5,961,397,632	\$1,418,812,636	124,842,848	\$29,712,598
1903.....	3,897,782	9,091,538,136	2,163,786,085	186,358,311	44,353,278
1904.....	4,133,539	9,470,698,573	2,254,026,260	191,230,947	45,512,965

Comparing 1904 with 1903 it is seen that the increases were much greater than were those in 1903 compared with 1902, or 1902 compared with 1901. The increases in 1904 over 1903 are, however, much smaller than are those of 1901 over 1900, the banner year of German material prosperity, but the increases are very gratifying, and indicate a decided improvement in the economic situation of Prussia.

As the increase of taxable net income in 1904 over 1903 has been relatively much greater than the increase of receipts from the income tax, it appears, in view of the progressive character of the Prussian income tax, that the increase in the number of taxpayers must be mainly in the lower grades, indicating that a large number of new low incomes have been created.

The number of income tax payers, inclusive of their families, compared with the total population of Prussia, was 37.1 per cent in 1904, against 35.9 per cent in 1903, and 29.3 per cent in 1896. In the cities the proportions were 47.6, 46, and 37.3 per cent, respectively, and in the rural districts 28.7, 28.1, and 23.5 per cent, respectively.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *December 22, 1904.*

AMERICAN COTTON GROWERS AND ENGLISH MANUFACTURERS.

(*From United States Consul Smyth, Tunstall, England.*)

It was my intention to cable to-day in reference to reports that appeared in last night's papers concerning the condition of the Egyptian cotton crop and its relation to the position of our cotton planters of the South, but I concluded a dispatch would accomplish my purpose just as well.

These reports foreshadow a shortage in next year's crop of the class of staples that comes into competition with American cotton. For this reason I do not hesitate to warn the southern planters against any move on the part of Lancashire manufacturers to force sales at low prices in order to meet such a deficiency.

The general opinion in Lancashire is that a plentiful supply of American cotton can be had on a "fippenny" basis—that is to say, 10 cents per pound. Combinations are being formed to hold the price at this notch, if possible, and these combinations intend to operate through agents sent specially to Louisiana and all the cotton-producing centers of the South. The troubles among the cotton manufacturers of the East are expected to aid in the development of this scheme, for they are likely to have a depressing effect on the home market.

My candid opinion is that an enormous amount of money can be saved to our planters by taking this matter up in time, and invoking the assistance of the banks or the National Treasury, if such an arrangement can be made, to enable the planters to warehouse their cotton until the present stocks are worked up on this side and the necessities of the manufacturers compel them to treat on more liberal terms with the growers or their representatives, as the case may be.

The erection of new mills in Lancashire, and the effect which their consumption is likely to have on the market next year, lend additional interest to this subject, and serve to emphasize the views I have taken the liberty to present in this dispatch. Fifteen-cent cotton, or even 12-cent, a difference of 2 cents in the pound as compared with 10 cents on every bale of cotton exported, would cut a very important figure in the net assets of one year's crop and add materially to the wealth and prosperity of the South.

WM. P. SMYTH, *Consul.*

TUNSTALL, ENGLAND, *December 16, 1904.*

TREBIZOND GOATSKINS FOR THE UNITED STATES.

(From United States Consul Sullivan, Trebizond, Turkey.)

The exportation of goatskins from this vilayet is assuming considerable proportions, amounting in value to \$400,000 annually. The bulk of them find their way to the United States via France, Germany, and England, and are exported through merchants of the countries designated. I am not aware of any reason why this should continue. I am in a position to place American merchants in direct communication with reliable dealers in this city, and they may save considerable sums in commissions and profits by purchasing direct. This procedure will tend to bring the merchants of the two countries into closer relations, and it will assist materially in the importation of American manufactures.

Some American merchants visited this place some time ago and were successful in opening direct mutual trade relations. The dealers located here are now purchasing American manufactures. The United States is the largest purchaser of the products of this vilayet, and I am desirous of seeing more people here purchase American goods. I am in a position to afford every facility for the accomplishment of that end, and I hope American exporters will see that their interests may be subserved in the manner indicated.

EDWARD J. SULLIVAN, *Consul.*

TREBIZOND, TURKEY, *December 15, 1904.*

INSTITUTE FOR CANCER TREATMENT AT HEIDELBERG.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Frankfort News says that the erection of the institute for cancer investigation, to be in the immediate vicinity of the Academy Hospital at Heidelberg, will be begun as soon as possible, and its completion is expected in the spring of 1906.

It will be the first large institution of its kind in Germany, and probably in Europe, where scientific investigation will be combined with treatment of patients. While the lower floor will serve exclusively for making bacteriological, pathological, and other researches, and while the entire equipment will reflect the most modern scientific knowledge, the second floor will accommodate about forty patients who may expect temporary or permanent relief. The first impetus for this institute was given by an unknown person, who nine months ago donated the sum of 150,000 marks (\$35,700) to be used exclusively for a hospital at Heidelberg devoted to cancer investigation. Other unknown donors have increased the fund to about \$60,000.

The government of the Grand Duchy of Baden, in accepting the trust on the part of the Grand Duke, has furnished the ground for the building and consented to manage the institution, for which purpose a considerable appropriation will be made.

As the well-known professor, Doctor Czerny of Heidelberg, and other experts take a deep interest in the project, it may be expected that the equipment of the institute will be in conformity with the requirements of modern medicine.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *December 16, 1904.*

AGRICULTURAL AND COMMERCIAL CONDITIONS IN SOUTHERN BRAZIL.

(From United States Consul Johnson, Santos, Brazil.)

The consular district of Santos comprises four States—Sao Paulo, Rio Grande do Sul, Parana, and Santa Catarina.

RIO GRANDE DO SUL.

Rio Grande do Sul, the most southern State in Brazil, adjoins Uruguay on the south, and has about 1,400,000 population, 800,000 of whom are Germans or of German descent. The principal product of the State is cattle, of which it produces more than any other three

States of Brazil. The climate is very fine, and the country rolling. It is reported in the papers here that Professor White, of West Virginia, who has been employed by the Brazilian Government to investigate the mineral resources of Brazil, has discovered a very large coal deposit of superior quality near Porto Alegre. The exports and imports are small, except those of cattle and cattle products, most of which are purchased by Brazil and the adjoining republics. Large amounts of hides, hair, horns, bones, and "jerked" beef are, however, shipped to Europe and the United States. The agricultural industry is quite limited, although the soil is well adapted to it.

PARANA AND SANTA CATARINA.

The States of Parana and Santa Catarina are sparsely settled, and therefore but little developed. While both have seaport towns of more or less magnitude, they import and export very little. The State of Parana is noted as producing more "yerba mate" than any other portion of the world, 80 per cent of which is shipped to Argentina. The State of Santa Catarina has about 150,000 inhabitants, 85,000 of them being Germans, and the State of Parana has about 250,000, of whom 180,000 are Germans.

STATE OF SAO PAULO.

The State of Sao Paulo has about 2,570,000 inhabitants and is largely agricultural.

COFFEE CULTURE AND EXPORT.

There are 16,015 coffee plantations, embracing 1,863,119 acres, on which were growing in 1901, 660,708,560 coffee trees. During the year ended June 30, 1902, there were shipped from Santos, the shipping port of the State, 10,169,000 bags of coffee. The frost in August, 1902, destroyed 100,000,000 coffee trees, besides injuring a great many others. During the year ended June 30, 1904, the shipments of coffee from Santos amounted to only 6,397,441 bags, being 3,771,559 bags less than were shipped the year before the frost. It may be contended by those not posted that the loss of these trees will be remedied by new planting, but such will not be the case, for the government of the State has passed a law prohibiting the planting of more coffee trees; hence no more will be planted during the existence of this law. It is said by some who are in a position to be well posted that the crop for the year ending June 30, 1905, will not exceed 6,750,000 bags. There are at present nearly 2,000,000 bags of coffee in Santos, a greater quantity than at any one time before.

OTHER INDUSTRIES.

Rice, sugar, cotton, corn, beans, potatoes, tobacco, melons, etc., are raised, and all do well. A much larger quantity of cotton is being

planted than for a number of years. There are a great number of plants for making rum out of sugar cane, commonly known here as "pinga." The yearly average production of sugar from cane is 8,296 metric tons. There are 16 cotton factories in the State of Sao Paulo, with 56,406 spindles and 2,836 looms. They employ 4,686 hands, annually consume 7,160 metric tons of cotton, and have an average annual production of 34,270,000 yards of cloth. The average annual expenses are \$2,436,798. Grape culture is becoming quite an industry and a good deal of tobacco is raised.

Coffee plantations of the State of Sao Paulo, Brazil.

District.	Plantations.	Coffee trees.	Land cultivated.	Land suitable for culture.	Total area.
	Number.	Number.	Acres.	Acres.	Acres.
First.....	3,284	102,615,499	233,437	257,124	1,283,758
Second.....	8,909	427,890,796	1,240,538	1,435,746	6,268,414
Third.....	3,822	130,712,266	389,143	760,753	2,818,582
Total.....	16,015	660,708,560	1,863,118	2,453,623	10,370,754

EXODUS OF PLANTATION LABORERS.

The coffee planters are somewhat alarmed at so many of the laboring people, chiefly Italians, leaving. During the twenty months ending August 1, 1904, 18,249 more left the State than came during the same time. A great many of them went to the United States. They were chiefly laborers on the coffee plantations.

RAILROADS.

Financial statistics of the railroads of the State of Sao Paulo, Brazil, 1902.

Railroad.	Total receipts.	Expenses.	Net receipts.
Sao Paulo Railway Company.....	\$6,015,761	\$2,886,875	\$3,128,886
Paulista Railway Company.....	6,225,252	2,779,905	3,445,327
Mogyana Railway Company.....	4,240,407	2,087,706	2,152,701
Sorocabana and Ytuana.....	2,548,976	1,342,336	1,206,640

CITY OF SAO PAULO.

Situated in the middle south of Brazil, the capital, Sao Paulo, has a population of at least 250,000, and is much more modern than any city in South America except Buenos Aires. It is noted for its many excellent colleges, schools, hospitals, and extensive public buildings, and its cotton, wool, car, furniture, and other factories. The population of Sao Paulo is said to be over one-half Italian. There are about 500 English and 150 Americans in the city. The city can boast of having the finest system of electric street cars and the finest water power to run its machinery in South America, and indeed I may safely say that there are but few better systems anywhere. The cars were made in St. Louis, and a great portion of the machinery came from the United States. The plant is owned by Americans and Canadians.

CITY OF SANTOS.

The public health of this consular district is good, and has been for more than three years. In former years Santos was termed a death trap, but owing to strict sanitary measures, a fine system of water supply, good sewerage, etc., infectious and contagious diseases have been kept well under control.

The city of Santos is improving, and it will not be many years before it will double its present population. The bag factory mentioned in my last report has been finished more than six months and is now turning out, with its 180 looms, about 4,000,000 coffee bags per year. There is also a match factory here nearing completion. Several modern business houses have been erected within the last eight months, one of which cost \$125,000. There has been erected recently a very good modern hotel on the beach, near the city, with about 75 rooms and all conveniences.

The Santos Dock Company is extending the docks, and when these are completed its dock accommodation will be second to none in the country. Dredging is being constantly prosecuted, and where the old charts show only 24 feet there are now 28 feet of water; hence old charts should be thrown aside and new ones made. There is ample water here to allow ships drawing 28 feet to come in with perfect safety. The harbor is, without doubt, one of the best in any country, being strictly landlocked, with docks, warehouses, and all modern conveniences for loading and unloading.

COAST NAVIGATION.

Coast navigation—that is, maritime communication between domestic ports—is, in accordance with the constitution of Brazil, carried on exclusively by ships carrying the Brazilian flag. All the domestic lines touch at the port of Santos. The most important of these lines is the Lloyd Brasileiro, which starts from the port of Rio de Janeiro and calls at the principal ports of the States of Parana, Santa Catarina, and Rio Grande do Sul. The State of Rio de Janeiro subsidizes a navigation company which runs between the ports of Rio de Janeiro and Santos, touching at the northern ports of the State of Rio de Janeiro.

OCEAN LINES.

Many navigation companies have regular lines of steamers between Europe and the port of Santos. The principal of these are the Hamburg-Amerika Line, the Hamburg Sudamerikanische-Dampfschiff-fahrts-Gesellschaft (both German), and the Royal Mail (English). There are six other lines with regular steamers from Europe to this port. The first-named line has some of its largest steamers on the route. There are four regular lines plying between Santos and the

United States: Lamport & Holt and the Prince lines (English), Rob. M. Sloman Line (German), and the Chargeurs Réunis (French), besides any number of "tramp" steamers and sailing vessels, about 1,000 in all. No United States steam vessels come to this part of South America except war ships, and only two or three sailing vessels arrived at this port during the past year.

IMMIGRATION CONTRACT.

I have just learned that the Brazilian Government has a contract with certain lines of steamers to bring in a certain number of immigrants each month, the Government paying all transportation expenses. I have noticed several steamers loaded with immigrants lately, mostly Spanish. The labor question in this State is causing a good deal of anxiety among the coffee planters.

AMERICAN GOODS IN SOUTHERN BRAZIL.

American goods are popular here for their style and durability, and are not excelled by any other country's products. I have heard no complaints of inferior packing for a long time. The greatest drawback to the sale of United States products in this country is that our manufacturers and exporters are not disposed to trust the merchants. In this regard I would say that great care is necessary, as it is difficult to arrive at a fair estimate of the standing of the merchants, and, in my opinion, there will be but little change for the better in this regard until Dan or Bradstreet have established agencies in this country. Of course our people sell a great many goods in southern Brazil, and would sell a great deal more if they knew the rating of the business people. There are a great many men in business here and in Sao Paulo who are perfectly good and safe, but on the other hand, there are many more whose standing has to be guessed at.

JESSE H. JOHNSON, *Consul*.

SANTOS, BRAZIL, *December 1, 1904.*

PROGRESS OF MONTEREY, MEXICO.

(*From United States Consul-General Hanna, Monterey, Mexico.*)

CITY IMPROVEMENTS.

Marked developments have taken place within this district during the past year. Old established industries have been enlarged and their capacity has been greatly increased. A large amount of American capital has been invested and it is understood that the investors are generally satisfied.

Monterey has rallied from the effects of the yellow fever of 1903;

business in every line appears to be more prosperous and a great amount of building of modern houses is noticeable in every part of the city. The sanitary condition and general healthfulness have been greatly improved, and the people are generally confident that the city is not likely to be visited with fever again. The State has granted a concession to an American company for the construction of a modern sewerage plant and water system which, when completed, will guarantee the healthfulness of Monterey and tend to add value to property.

RAILROAD COMMUNICATIONS.

Monterey is now without doubt the most important railroad center in the Republic, north of Mexico City. The railroad lines centering here are largely owned by American capitalists. Nearly all the companies have materially improved their properties until the railroads of Mexico remind travelers of those in the United States.

The National Railway of Mexico, which has widened its entire gauge from Laredo, Tex., to the City of Mexico, has become a thoroughly modern system. Through sleeping cars run over this line from St. Louis, Mo., by way of Monterey, to the City of Mexico, and I am informed by representatives of the company that after January 1, 1905, another through express train of the most modern sort will run from each of these cities daily. This addition, I understand, is made in order to take care of the increased travel. The line being built by this company from Monterey to Matamoros is nearly completed; the gauge is standard, the road is well built, and regular train service between Monterey and Matamoros will be established early in 1905. The construction of this branch will not only be a great benefit to Monterey and Matamoros, but it will help to develop a very rich country through which the road passes. Its completion will give Monterey another railroad outlet across the Rio Grande into the United States and will undoubtedly stimulate trade with this part of Mexico.

Railroads have already been completed from the north to Brownsville, Tex., opposite Matamoros, on the Rio Grande River, so that within a short time there will be much travel to the United States from Monterey by way of Matamoros and Brownsville. Already many Americans are becoming interested in the country along this new line of road.

The Mexican Central Railway has extended its line from Monterey to Torreon, where it makes connection with the main line of the system for Mexico City and for the United States by way of El Paso. The whole Mexican Central system appears to have been greatly improved, especially the line running from Monterey to Tampico, on the Gulf of Mexico. This line is becoming popular for travel between northern Mexico and New York. The Central connects at Tampico

with the Ward Line Steamship Company, which runs modern passenger ships between Tampico and New York by way of Habana. The Ward Line, in connection with the Central Railway, does a large amount of business with this part of Mexico, bringing freight and passengers from New York and the East to this part of the country, and carrying large quantities of Mexican products as well as a large passenger traffic from the northern part of Mexico to New York and the eastern part of the United States.

The Mexican International Railway, running from Monterey to Durango and from Monterey to Eagle Pass, Tex., where it connects with the Southern Pacific, has become a part of the Mexican National system. It is understood that this line will be extended and greatly improved in the near future.

LOCAL INDUSTRIES.

Nearly all the local industries have been enlarged during the past year. The large smelters have been increased in capacity, marked improvements have been made, modern machinery has been installed, and there appears to have been a substantial increase in business.

The steel plant, which has been in operation for more than a year, has been greatly increased in capacity, and its business is reported to be in a prosperous condition. The brewery, the large brick plant, furniture factories, flour mills, and cotton and woolen mills, in fact nearly all the factories in the city, give evidence of improvement and increased capacity.

AMERICAN GOODS IN MONTEREY.

Business between Monterey and the United States continues to be good, and it is understood that more than 75 per cent of the foreign-purchased goods brought to this city comes from the United States.

AGRICULTURAL DEVELOPMENT.

Extensive agricultural developments, in which Americans are largely interested, are taking place constantly southeast of Monterey, along the line of the Mexican Central Railway. Some of the rich lands, suited for agriculture and fruit raising, are being developed by companies, colonies, and individuals. Most of these investors appear to be well satisfied with their investments in that part of the country, where, it is understood, several thousand Americans have interests.

MEXICAN MONEY.

The monetary question in Mexico appears to have reached a basis of settlement from which it is generally believed business men and consumers will receive great practical benefit. So long as the fluctuation

of the currency continued no small degree of uneasiness and uncertainty prevailed. Merchants who purchased goods in the United States and Europe on a gold basis were compelled to sell for a kind of money the value of which, sixty or ninety days in advance, was always speculative and uncertain. Consequently importers, in order to protect themselves, necessarily took into consideration the possible decline in value of the money they received for the goods. They sold knowing that settlement would have to be made in gold; as a result, merchants were unable to sell goods on a close margin, for at times the decline in values in the kind of money they had taken swept away the profits of three or four months' business.

It is believed that with the determining of the value of the Mexican peso by the Government business will be carried on in a much more satisfactory manner; merchants will know exactly what their money is worth and just how many debts it will pay, and they can afford to sell goods on closer margins. The merchants will be safer and the people will buy cheaper. Undoubtedly this determining of the value of the peso will not only result in a more prosperous condition throughout the Republic, but will stimulate trade between Mexico and the United States.

PHILIP C. HANNA. *Consul-General.*

MONTEREY, MEXICO. *December 20, 1904.*

ART LOANS FOR EDUCATIONAL PURPOSES.

(*From United States Consul Halstead, Birmingham, England.*)

A very useful educational purpose is served by the practice of lending to schools of art in different English cities objects of art from the national museums. As an instance, the Government board of education has this year sent from the Victoria and Albert Museum in South Kensington, London, an interesting loan collection of objects of art for use in the Birmingham Municipal School of Art until the close of the current season in June, 1905. The selection was made not only with a knowledge of the work being done in that school, but also with the idea of suggesting methods not at present practiced in the school. I believe it is an example which the United States might well follow, and that a useful purpose will be served by reprinting the following paragraphs from an article in the Birmingham Daily Mail, describing the collection now on exhibition:

ART COLLECTION FROM SOUTH KENSINGTON MUSEUM AT BIRMINGHAM SCHOOL OF ARTS.

The objects cover a wide area of craftsmanship: Metal work, enameling, jewelry, wood carving, embroidery, wood engraving, drawing in black and white for book illustration, illuminated manuscripts, lettering, gesso ornament, decorative painting, etc.

METAL WORK.

A plaque, damascened with silver and gold, of Italian workmanship (sixteenth century) is a good example of a pretty method of decoration which has rather gone out of use, but which might well be revived in Birmingham. Another possible local revival is suggested by the inclusion in the loan of a very beautiful lock plate, in pierced and engraved brass, made in Birmingham during the latter half of the seventeenth century. In design this lock plate would hold its own with the work of any period. The name of its maker, Johannes Wilkes, is engraved on its base. Again, a chatelaine of pierced steel made in Birmingham in the eighteenth century is an example of beautiful workmanship. Long and patient effort alone could have produced such a piece of work.

Among other examples of metal work is an electrotype of a thirteenth century reliquary (Norwegian) of sheet metal embossed with figures, one portion representing the death of St. Thomas á Becket. This reliquary is beautiful in shape and of simple, artistic workmanship, although it might be called "amateurish" by a skilled modern workman.

ENAMELS, JEWELRY, WOOD CARVING, AND EMBROIDERY.

There are a few specimens of enameling, two of Champleve and one of Limoges. The latter is of the style for which Birmingham students have in recent years gained high awards (including two gold medals) in the national competition. Champleve is not now so much practiced in the school as formerly, partly, perhaps, because of the hard work entailed in chiseling at the spaces to receive the enamel; but there is not a more beautiful decorative method of using enamel. Jewelry is represented by two small pieces of gold filigree and enamel. These are of the fifteenth century German workmanship and delicate and restrained in design. Specimens of simple jewelry useful to students are difficult to obtain, as most of the really fine examples are too precious to be sent on loan; those of an elaborate style are useless, at least to beginners. The collection includes several pieces of wood carving of fine quality. Especially noticeable are two pieces of northern French workmanship of the fifteenth century. These form part of a screen which contains two illustrations of "The Temptation on the Mount." A carved panel of German origin, also of the fifteenth century, represents St. John the Evangelist, and is remarkably good. Gesso is illustrated by a magnificent shield (Italian, fifteenth century), a rampant griffin painted in black upon a highly ornamented field of gold. Some excellent prints from drawings by Millais, F. Walker, and Sandys have been included in the loan in the hope that they may inspire the students to emulate at least the two first-named artists in seeing subjects of deep poetic interest. Among the embroidery are several fine pieces of English work, gay in color, simple in design, and quite void of that quality of high ingenuity which so commonly takes the place of feeling in modern "art" embroidery.

WRITING AND PRINTING.

The selection of manuscripts includes reproductions of two pages of a gospel book written in Italy during the twelfth century. The essential quality of good writing is that it be clear, of fine form, and free

from flourishes and other ornaments which interfere with its legibility. The twelfth century produced the finest writing ever known—a round, free, flowing form of letter, used by the later Italian writers in preference to the Gothic, which became the fashion in all other countries, and in the middle of the fifteenth century was the model for the first Roman type. There is shown, too, a printed page in which this type is used and illuminated with an initial letter and border. These examples are of practical interest to the student. In addition there are pages from bibles and choir books of a later period, all written in that singular hand, known to us in its degraded form as “Old English,” which marks the beginning of the decline in writing. The page itself, with its lines of writing well balanced and enriched with historiated initials and borders, is indeed beautiful, despite its faults of compression and of indiscriminate flourishes. It is interesting to note that in the later examples the ornament is less conventional in its treatment.

The difference between this and the work of the twelfth century may be readily seen by comparing the German and the Roman type.

The printed books of the fifteenth and sixteenth centuries are interesting examples of the manner of placing the type on the page and as a recognition of the value of margins, qualities too often overlooked in modern work. Altogether the loan is likely to be exceedingly valuable and interesting to the masters and students.

As the Municipal School of Art is open to public inspection on Saturday mornings, others interested may like then to avail themselves of the opportunity of seeing the collection.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *December 15, 1904.*

UNITED STATES CURRENCY IN CANADA.

Under date of December 29, 1904, United States Consul Charles Deal, St. Johns, Quebec, transmits an article from a local paper, headed “Would drive United States currency out of Canada,” of which the following is an extract:

For many years past American silver and paper money has been circulating to a large extent in Canada, especially the silver. Hundreds of thousands of United States greenbacks, dimes, quarters, and half dollars are in circulation in Canada to-day, and their use is increasing rather than abating. Canadians would prefer their national currency, yet for years had no particular aversion to the American article. But after a trip through the States their views generally changed. There Canadian money is always regarded with suspicion, generally refused, and if accepted at all a heavy discount is charged. The visitor's national pride is assailed in a very vulnerable spot—his pocket—and on his return to Canada he generally avoids American money whenever possible.

Last summer thousands of Canadian business men and women visited the St. Louis fair. To most of them it never occurred that they should change their money. They used so much American currency at home that they naturally supposed their own good Canadian bills would be welcome under the Stars and Stripes. But they were not, and the

refusal of the people at St. Louis and other cities to accept the Dominion cash, together with the greed of the money changers, caused inconvenience and loss. These people coming back to Canada brought with them a determination to "soak" the intruding currency whenever and wherever they found it. The feeling gained strength from the business and banking as well as an emotional standpoint. As a result strong efforts have been made to procure legislation to exclude the undesirable money, so that the field may be left clear to the Canadian banks and government.

Mr. Robert Bickerdike, a prominent representative of business and banking interests in Parliament, was interested in the movement, and during the past few months he has been requested by numerous delegations of business men to introduce the necessary legislation. This he has tentatively consented to do, and has a bill dealing with the matter under consideration.

RESOURCES OF CANADA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The second volume of the fourth census of Canada, 1901, recently published, contains statistical tables relating to the natural industries of the Dominion, arranged under the general heads of agriculture, minerals, and fisheries. The following information is derived from it.

AGRICULTURE.

The total value of capital invested in the agricultural industry in Canada in 1901 amounted to \$1,787,102,630, and the total value of farm products of that year was \$363,126,384, representing 20.32 per cent on the total investment. This is exclusive of maple sugar, with a value of \$1,780,482, and forest products, which yielded \$51,082,689.

Number of domestic animals, poultry, and hives of bees in Canada, 1891 and 1901.

Kind.	1891.	1901.
Horses, 3 years old and over.....	1,068,584	1,304,910
Horses, under 3 years.....	401,988	272,583
Milch cows.....	1,857,112	2,408,677
Other horned cattle.....	2,263,474	3,167,774
Sheep.....	2,563,781	2,501,289
Swine.....	1,733,850	2,353,828
Turkeys.....	468,306	584,569
Geese.....	537,932	395,997
Ducks.....	320,169	290,755
Hens and chickens.....	12,696,701	16,562,084
Other fowls.....	91,994	89,253
Hives of bees.....	199,288	189,986

FOREST PRODUCTS.

During the last census year the square, waney, and flat timber cut amounted to 11,726,914 cubic feet, with a value of \$1,480,312. Compared with previous years this shows a great decline. In 1891 the total production was 44,711,868 cubic feet; in 1881 it was 111,633,862 cubic feet, and in 1871 it was 65,669,871 cubic feet. In addition to the

falling off in these classes of timber, the aggregate production of logs of all kinds diminished by 25 per cent during the last decade, and the only increase in miscellaneous products was in wood for pulp, of which there were produced 261,110 cords in 1891 and 668,034 in 1901. The value of forest products of all kinds in 1901 was \$51,082,689, in addition to which furs of wild animals were obtained to the value of \$899,645.

MINERALS.

The aggregate value of the mineral products in 1901 is placed at \$47,956,862. The value of mineral lands and plants was \$104,489,976; the number of persons employed was 40,430, and the cost of salaries and wages was \$18,485,991. These figures are exclusive of the placer gold mines of Yukon district, which were omitted owing to the failure of the enumerators to obtain correct figures. No returns of the mining industry were published in the census of 1891, but in comparing the statistics of 1901 with those of 1881, large increases are shown in all kinds of minerals except pyrites, peat, phosphate of lime, salt, and roofing slate. Since 1881 the production of gold has been multiplied twelve times; of silver, nine times; of copper ore, thirty times; of coal, four times; of plumbago or graphite, a hundred times, and of mica, six hundred times.

FISHERIES.

The plants employed in the fisheries of Canada in 1901 had a value of \$11,208,564, comprising 45,638 vessels, with a value of \$3,863,115; 1,568,763 seine nets, and other gear, with a value of \$3,784,503, and 11,481 curing and canning stations, including 2,084 piers and wharves, with a value of \$3,560,846. The industry is carried on by three classes, those who work on their own account, those who work on shares, and those who work for wages. Men on tugs almost all worked for wages, except in Ontario, where 49 out of 395 worked on shares. The ships of the deep-sea fisheries in the Atlantic and in the St. Lawrence Gulf employ men on shares almost exclusively, but wages are paid on vessels in British Columbia and on some boats of New Brunswick. The total value of fish products amounted to \$19,768,449, of which the value of \$17,891,452 was derived from the seas and \$1,876,997 from the lakes.

W. R. HOLLOWAY, *Consul-General*.

HALIFAX, NOVA SCOTIA, *December 29, 1904.*

COMMERCE AND INDUSTRIES OF ALGERIA.

(From United States Consul Kidder, Algiers, Algeria.)

PROSPERITY IN THE COLONY.

During the year 1903, and more especially during the present year, Algeria has had a period of prosperity hitherto unexampled. The

grant of autonomy, subject only to the financial control of the French Parliament, and the freedom from French centralizing tendencies due largely to the unwearied efforts of the present popular and energetic governor-general, seem to have inspired new energy in the people and new impulses to every branch of activity.

Many new public works are in progress. The new or inner harbor is now almost completed, and gives to the port a total length of quays of 3,000 yards. It is connected with the principal harbor by an opening 80 yards wide with a minimum depth of 33 feet. The number of vessels arrived at the port of Algiers in 1903 was 10,598, against 8,558 in 1902. An important branch of business is the furnishing of coal to steamers, 1,867 ships having stopped here to coal in 1903. The stock of coal varies from 30,000 to 40,000 tons, and loaded barges are always ready to meet vessels.

A notable feature in the revival of business is the number and extent of building operations. Speaking of this city only, a large and very handsome quarter has, inside the last two years, sprung up near this consulate, which is now, in consequence of the junction of the two communes of Algiers and Mustapha, in the very center of the city. A plot of ground has been reserved near the consulate for the construction of a new central post-office. The erection of a new palace for the governor-general in the immediate neighborhood is also contemplated.

TRADE WITH THE UNITED STATES.

Exports to the United States have largely increased lately. For the quarter ended September 30, 1904, the invoices presented at the consulate for certification amounted to \$106,415.27, against \$7,546.50 during the same quarter in 1903. Of the imports from the United States it is impossible to speak with any degree of exactitude, for they come chiefly from entrepôts in France, and having paid the duties there, are not classed as foreign imports on arriving here. Direct imports from the United States in 1903 amounted to about \$506,000, an increase over the preceding year of nearly \$110,000. The principal articles were: Agricultural implements, \$71,000; cotton-seed oil, \$114,000; lumber, \$110,000; petroleum, \$28,000; tobacco, \$137,000; and tools and machinery, \$25,000. The exports to the United States in 1903 amounted to \$140,000. The principal articles were: Corkwood, \$26,000; skins, \$40,000, and vegetable hair, \$60,000.

GENERAL IMPORTS AND EXPORTS.

The total imports into Algeria in 1903 amounted to about \$70,000,000, of which \$58,000,000 came from France. This applies only to articles intended for consumption in the colony. Coal for ships and goods merely passing in the ports of Algeria are not included. The larger part of the imports from the United States is included in the

\$58,000,000 noted as coming from France. The exports from Algeria in 1903 amounted to about \$57,500,000, of which \$47,000,000 went to France. It is impossible to give official figures for the first six months of 1904. The official volume for 1903 was not issued until September.

PROPOSED RAILWAY REFORMS.

A much needed reform in the railway system of Algeria is to be realized as soon as the existing concessions expire, which will be within a very few years for the last of them. The colony, aided financially by France, is to buy up all the lines, and is to establish uniform and reduced tariffs over the whole country. No measure is more urgently required nor is more likely to prove a greater boon to Algeria.

DANIEL S. KIDDER, *Consul.*

ALGIERS, ALGERIA, *December 5, 1904.*

COLOR PRINTING IN ENGLAND.

(*From United States Consul Mahin, Nottingham, England.*)

An impression which has become more or less prevalent, that the leadership in color printing is passing from England, where the art so long defied successful competition, is not sustained by statements emanating from well-informed persons.

It has been said that to get good color printing one must go to Germany. It is denied that this is true, except as to one branch. The best work in the multicolored litho process of small design comes, it is admitted, from Germany. It is explained, however, that this is not because the Teuton is the better exponent of the art, but merely because more favorable meteorological conditions prevail in that country. This has been proven, it is asserted, by actually setting a German down in London with the same plant and conveniences that he had in his own country, when he turned out work not a whit better than the Englishman's.

Picture post cards are the most widely circulated examples of color printing. Of these it is claimed that 95 per cent of the color printing for England is done in England, and that England exports to Germany more of one particular style of card than Germany sends hither of all the different styles combined. It is declared that color printing was never so flourishing in England as it is to-day.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *December 17, 1904.*

NOTES.

Treatment of Ankylostomiasis in Belgium.—As a further evidence of the prevalence of ankylostomiasis in the Liege coal mines and its susceptibility to treatment, I beg to offer the following:

In the various mines throughout the province this dreaded disease was prevalent beyond expectation. The commission appointed to investigate the malady found at least 50 per cent of the workmen affected. The Nouvelle-Montagne Company organized a special hospital staff to treat their men. The miners voluntarily submitted to examination and treatment with such a measure of success that not one miner is at present suffering from the malady. When the treatment commenced 287 men were employed in this company's mines, of whom 215 suffered from miner's worm. The mines, under this systematic treatment and the institution of sanitary measures recently prescribed, are now pronounced free from any contagion.—*James C. McNally, Consul, Liege, Belgium, November 12, 1904.*

Under date of November 6, Consul McNally transmitted a report on the sanitary measures provided by the Belgian Government for the prevention of ankylostomiasis, which is on file in the Bureau of Statistics, where it may be consulted by persons interested.

Marseille Ship Canal.—The ship canal intended to connect the city of Marseille directly with the Rhône has not advanced beyond its initial stages. The working plans for the use of contractors are not likely to be completed until the early part of 1905, and it is not now presumed that work will actually begin before January, 1906. The law of December 24, 1903, puts the total cost of the projected work at 71,000,000 francs (\$13,703,000). The difficult work in connection with this enterprise will be the piercing of the tunnel of Rove. This tunnel will be 7 kilometers (4.35 miles) long and is expected to cost 33,049,000 francs (\$6,378,457). Probably American manufacturers of pneumatic tools and other labor-saving devices would find it to their great advantage to keep in touch with this important public work, the details of which are under the control of the department des ponts et chaussées, at Paris. It is not expected that the canal will be open to navigation within ten years.—*Robert P. Skinner, Consul-General, Marseille, France, November 18, 1904.*

New Harbor Works of Havre.—During the year fair progress has been made on the new works which are being constructed to better the harbor facilities of the port of Havre. The two converging breakwaters, which will form the outer limits of the new outer harbor, are about three-quarters finished. The old north and south jetties are being removed to make way for the new entrance channel and to permit the construction of the quay on the south side of the outer harbor. It is alongside this quay, when finished, that vessels of the largest draft of water can moor at any stage of the tide, load and discharge cargo, embark and disembark passengers and baggage without entering the inner harbor. Work is being pushed on the new and enlarged tidal dock, which will form the main entrance to the inner floating docks. Whenever the weather permits dredging of the new channel the work is carried on day and night. Up to the present time over 1,000,000 cubic yards have been taken out. It is estimated that in less than four years the new works will be finished. Havre, then, will be the best-equipped port in France.—*A. M. Thackara, Consul, Havre, France, November 10, 1904.*

Sanitary Fittings in San Juan, Argentina.—The National Government has decided to equip the houses of San Juan with modern sanitary fittings (cloacas domiciliarias), and for this purpose a sum of \$600,000 has been granted. The work is to be completed within three years, and is under the supervision of the *dirección general de obras de salubridad de la nación* in Buenos Aires, to whom all inquiries should be sent.—*Wm. F. Wright, Consul-General, Munich, Germany, November 26, 1904.*

Automobiles for Europe.—I believe the time is at hand when American manufacturers of automobiles and motor boats will find a market in Europe, and it may be well for them to give the subject serious attention. For some time past it has been generally supposed that it would be impossible for Americans to compete with German and French manufacturers, but I think there are many machines of American make that will now find a market on the Continent. In Lucerne I have noticed a few machines of American make, and the owners express themselves as being pleased with them. The small "runabout," so extensively used in the United States, would, I believe, find a market here. The cheapness, durability, and strength of our machines will bring them into consideration. This office will be glad to distribute where they will do the most good any catalogues or literature upon the subject which may be sent.—*Henry H. Morgan, Consul, Lucerne, Switzerland, November 23, 1904.*

American Railway Supplies for Egypt.—The railway companies of Egypt are preparing to spend a large sum of money in improving their lines, by building bridges and laying new rails. If American manufacturers wish to furnish materials for these improvements an American agent should be sent at once to Cairo with samples of rails and other railway supplies. Without an agent on the spot, American manufacturers can not hope to compete with those of other countries.—*Frederick G. Morgan, Vice-Consul-General in Charge, Cairo, Egypt, December 1, 1904.*

Coal Imports of Cette, France.—The imports of coal at Cette during the year were 88,800 tons, or about 5,000 tons less than in the previous year, and consisted of English coals for industrial purposes, and gas coals. Prices for English gas coals were from \$4.05 to \$4.43, and for English industrial coals from \$4.43 to \$4.63; for best French steam coals, \$5.21 to \$5.40. Freights were lower than ever before. Coals from Newcastle to Cette paid 5s. 6d. to 6s. 6d. (\$1.34 to \$1.58) per ton, rates which were disastrous for shipowners.—*C. D. Hagelin, Consular Agent, Cette, France, November 20, 1904.*

Increased Petroleum Production in Roumania.—According to the statement lately issued by the minister of domain the production of petroleum in Roumania has nearly doubled since 1901. The statistics of production given for the last three years are: 1901, 236,000 tons; 1902, 322,000 tons, and 1903, 409,000 tons.

The amount of petroleum exported from Roumania in the years 1902 and 1903 was as follows:

Petroleum exports from Roumania, 1903 and 1904.

Kind.	1902.	1903.
	<i>Tons.</i>	<i>Tons.</i>
Unified petroleum	28,964	57,000
Refined petroleum	39,816	39,000
Benzine	6,910	20,000

The local consumption of petroleum has also largely increased.

The report speaks of the large number of companies belonging to foreigners as well as Roumanians which are now engaged in the production of petroleum in Roumania, and states that they have increased in number from 199 in 1902 to 363 in 1903, and that they are for the most part in a most satisfactory financial condition.—*Charles S. Wilson, Secretary of Legation, Athens. Greece, November 12, 1904.*

Exclusion of Austrian and German Sugar from India.—In his annual report covering the foreign trade of British India for 1903 (printed in full in *Commercial Relations* for that year), United States Consul-General Patterson, of Calcutta, shows how a very promising trade in Austrian and German sugars in India was nipped in its incipency:

The sugar imports from Germany first assumed importance in 1896, and Austria-Hungary entered the field in 1897. To avert the danger threatening the sugar industries of India through the rapid growth of the imports from these two countries, countervailing duties on subsidized beet sugar were imposed in March, 1899. In 1902 the imports of sugar from Austria-Hungary surpassed those from Mauritius—a British colony—and beet sugar from Austria and Germany was imported to a larger extent than cane sugar. To prevent these large importations a law was passed authorizing the imposition of further additional duties on imported foreign sugars the bills of lading for which were signed or given after May 22, 1902. The additional duties may be said to have operated for nine months of that year, and their effect was to virtually extinguish the trade in Austrian and German sugars. Of the total imports of Austrian sugar, slightly more than one-half were received in April, 1902, and by September of that year the trade was nominal. The exclusion of German sugar was complete, as only 1 ton was received in the last five months of the year ended March 31, 1903. This sugar legislation shows that countries under British rule become protective-tariff countries when it is necessary to protect their industries.

Vital Statistics of Havre.—The population of the city of Havre at the last census, taken in 1900, was 130,196. In 1903, there were 1,156 marriages contracted, or 8.8 per cent per 1,000 inhabitants; the average for the previous five years was 1,174. The number of births was 3,808, against 3,959 in 1902, an average per 1,000 of 29.2; 1,945 were males and 1,863 females; 3,260 were legitimate and 548 illegitimate. The number of children stillborn was 169. There were 3,017 deaths in 1903, a mortality rate of 23.1 per 1,000 against 25.7 in 1902; 1,664 deaths were males and 1,353 females. The average number of deaths per annum in the previous five years was 3,226. There were 895 deaths of children under 5 years of age, 29.7 per cent of the total number of deaths. The principal causes of this excessive infantile mortality were diarrhea and enteritis. The number of deaths from typhoid fever was 33, the lowest ever registered, from diphtheria 10, scarlet fever 9, measles 43, whooping cough 17, pulmonary phthisis 639, against 571 in 1902, diarrhea 352, and affections of the respiratory organs 317.—*A. M. Thackara, Consul, Havre, France, November 10, 1904.*

American Photographic Materials in China.—American camera and photographic material manufacturers have no difficulty in maintaining their great lead in the markets of the Far East. American films

and plates control the situation everywhere in China. In a number of places European firms, notably French, have made efforts to secure a market, but experiments with their films and plates by professionals and amateurs have resulted in a return to articles of American manufacture. The Americans are maintaining their hold solely by reason of the superiority of their goods. There are cheaper goods on the market; the Japanese are flooding the photo-supply stores with cheap supplies, especially cheap paper, but the product is of inferior quality and does not hold its own with better grades in either photographic results or ultimate cost. American goods are taken as the standard, and the maintenance of their present high character will probably keep them in that position. Professional photography in China is growing rapidly.—*Geo. E. Anderson, Consul, Hangchow, China, November 4, 1904.*

Shoes in Liberia.—There is a decided preference for American shoes in Liberia, and more than the German, the English-made shoe is in appearance something like the American. Notwithstanding the great effort of the Germans for the Liberian trade along all lines, with the great advantages of the Woermann Line and houses, they can not overtake the English in this branch, for the above reasons. The Germans sell 25 per cent less shoes in Liberia than the English. Americans, from lack of information, are indifferent to the trade, and get less than 9 per cent. Even this is due to the strong demand for American-made goods. Under the circumstances it is strange that we get any. The trade yields large profits, American \$1.50 and \$2 shoes selling at \$4.50. There is an opening for one good American shoe store in Liberia.—*Geo. W. Ellis, jr., Chargé d'Affaires, Monrovia Liberia, October 27, 1904.*

Liberian Palm Oil.—During the last quarter of 1903, Liberia exported a total of 49,376 gallons of palm oil, valued at \$13,526, to England and Germany, England taking 29,325 gallons, valued at \$7,888, Germany 20,051 gallons, valued at \$5,638. Palm oil is used abroad for making candles, soap, and glycerin, and for lubricating purposes. In Africa the natives use it for cooking and making soap. It is made from the outer part of palm nut, not from the palm kernel. The palm nuts are taken from the head and boiled; they are then placed in a mortar, and the outer part is separated from the kernel. This outer portion of the nut is boiled again, and during this process the oil is secured.—*George W. Ellis, jr., Chargé d'Affaires, Monrovia, Liberia, October 24, 1904.*

Automobile Exhibition in Berlin.—Under date of December 24, 1904, the Secretary of State informs the Secretary of Commerce and Labor that he has been advised by the German chargé d'affaires ad interim at Washington, under date of December 22, that an international automobile exhibition will be held at Berlin from February 4 to February 19, 1905. The Duke of Ratibor will be the president of the exhibition, which will be under the patronage of Prince Henry of Prussia. The chargé requests that the exhibition be brought to the attention of interested parties in the United States, and the Secretary of State suggests that notice thereof be printed in the Consular Reports. Terms of entry, a programme, and general regulations can be had on application at the Department of State.

Industries of Cæsarea.—In his annual report, which will appear in Commercial Relations of the United States with Foreign Countries for 1904, Consul Milo A. Jewett, at Sivas, Turkey in Asia, refers as follows to Cæsarea and its manufacture of antiquities:

The city and market of Cæsarea, which is embraced in this consular district, is somewhat in advance of Sivas. In the early part of the Christian era Cæsarea was one of the most important cities of Asia Minor. It was an ecclesiastical center and attracted persons of wealth. From an early date it had more commerce than Sivas, and its wealthy merchants did business in the great seaports of the Mediterranean and took up temporary residence there. It was thus brought into relations with European merchants, manufacturers, and methods. Owing to changed political and commercial conditions of late years the people of Cæsarea have ceased to do much business abroad, but it continues an important center of Turkish trade, and its markets have a somewhat greater variety of western goods than those of most cities of the interior. The manufacture of silk rugs and jijims are the most important industries of Cæsarea. It is also a center for the collection and forwarding to Constantinople of antique and modern rugs. In that city many antique coins and other antiquities and Hittite and cuneiform inscriptions are counterfeited.

Ivory in Liberia.—According to official statistics the exports of ivory from Liberia were as follows during the three months ended December 31, 1903: To the United Kingdom, 116 pounds, valued at \$118; to Germany, 786.5 pounds, valued at \$986. Ivory is used in Africa in the manufacture of various articles of ornament and utility. Some of them are not only unique and useful but highly artistic. They are chiefly found among the Mandingoes, in Liberia, who are widely known for their industrial skill. The exportation of ivory has been much impaired by tribal feuds and wars which have raged in the interior, but which are now happily terminated. The cessation of

these wars will be followed by a marked increase in exports from Liberia.—*George W. Ellis, jr., Chargé d'Affaires, Monrovia, Liberia, October 25, 1904.*

Rise in the price of sugar in Germany.—According to newspaper reports, the recent advance in the price of sugar in Germany was caused by a report of the International Association for Sugar Statistics, which estimates this year's sugar production in Europe at only 4,441,740 metric tons (metric ton=2,204 pounds), whereas the previously published estimates of four prominent authorities placed the production at more than 5,000,000 tons, the highest estimate being 5,555,000 tons. It may be well to remember that the International Association's estimates of the two previous years were considerably below the actual results.—*George H. Murphy, Vice and Deputy Consul-General, Frankfurt, Germany, November 10, 1904.*

Railway from Nice to Cuneo.—In a report dated October 24, 1904, I stated that the line from Nice to Cuneo had been declared in Italy to be "utilité publique." A similar declaration will be made in France next week, covering that portion of the proposed road from Nice to the frontier. The first section of the line (Nice to Lucéran, 23 miles, single track), is estimated to cost \$3,850,000. The second section, single track also (Lucéran to the frontier), passing under Mount Frazian, is estimated to cost \$8,392,000. These first steps toward the preparatory proceedings for the actual building of the railway, therefore, entail an estimated expenditure of \$12,252,000.—*Harold S. Van Buren, Consul, Nice, France, November 15, 1904.*

Beer in India.—German newspapers report that during the fiscal year ended March 31, 1904, British East India imported 4,069,000 gallons of beer, of which 3,830,000 gallons came from England. In addition to this the 27 breweries in India produced 6,474,860 gallons.—*George H. Murphy, Vice and Deputy Consul-General, Frankfurt, Germany, November 7, 1904.*

Brazilian Hardwoods for the United States.—Under date of December 1, 1904, United States Consul-General Eugene Seeger, of Rio de Janeiro, reports as follows from Chicago:

During recent travels in the United States I have observed that the prices of the finer grades of hardwood have increased to such an extent as to cause an impediment to the trade. I therefore call the attention of those interested in the wood industries to the fact that fine varieties of cabinet woods are very abundant on some of the navigable rivers in the

southern part of Brazil and also in the State of Espirito Santo. Freights between the United States and Brazil in sailing vessels are very cheap at present, and it is easy to secure concessions from the State governments for large tracts of timber land; consequently the export of the finer grades of cabinet wood from Brazil to the United States promises to be a lucrative business. I would advise those interested in the wood industries to make investigations promptly before European competitors have secured the most desirable properties and privileges. I would be very glad to assist any efforts made in this direction.

New Railway in Mexico.—The Occidental Construction Company, of which Mr. Lewis Warfield, of New York City, is director, has been granted a liberal subsidy and concession by the Mexican Government to build a railway from Guaymas, Sonora, to Guadalajara, Jalisco. The work is to begin at Culiacan, the capital of Sinaloa, and be brought to this point (Mazatlan), this part of the road having been surveyed and much of the right of way secured; after this the work will be pushed north from Culiacan to Guaymas, and south from Mazatlan to Guadalajara. Messrs. Miller and Sibley, large shareholders of the company, own an extensive mine along the line of the contemplated railway. A telegram from Mexico City, covering the facts herein reported, has been received by Mr. Harold R. Miller, secretary of the Occidental Construction Company, and given to the press of Culiacan.—*I. Kaiser, Vice and Deputy Consul, Mazatlan, Mexico, November 18, 1904.*

European Steel Rail Trust.—I am informed that within the past fifteen days manufacturers of steel rails in England, Germany, France, and Belgium met in London and entered into an arrangement to control the price and output in this branch of the steel industry. This combination, it is said, was formed to compete with the American manufacturers, who are underselling the European manufacturers in their own markets. According to my informant, the percentage of the production is to be as follows: England, 48; Germany, 31; Belgium, 17; France, 4.—*James C. McNally, Consul, Liege, Belgium, November 17, 1904.*

Rubber Cultivation in Asia.—As supplemental to my reports on rubber culture of January 12 and June 23, 1904 (Daily Consular Reports, Nos. 1904 and 2035), I have now to state that there is much activity in rubber culture in Ceylon, Java, Sumatra, Borneo, and the Malayan Peninsula. Because the United States is a large consumer and the Philippine Islands possess, in climate, latitude, and richness of

soil, far better conditions for successful production of rubber than do the other domains named, I again urge upon Americans the wisdom of planting Para rubber in the Philippines.—*O. F. Williams, Consul-General, Singapore, Straits Settlements, October 25, 1904.*

American Money Sent to Sweden.—During the year 1903, 9,717,632 crowns (\$2,604,325.38) were sent, in postal orders, from the United States to Sweden, and 1,601,110 crowns (\$429,097.48) from Sweden to the United States, leaving a balance of \$2,175,227.90 in favor of Sweden. Since the postal money-order system between the United States and Sweden has been in existence (April 1, 1885) there has been sent from the United States to Sweden 70,913,702 crowns (\$19,004,872) more than from Sweden to the United States.—*Robert S. S. Bergh, Consul, Gottenborg, Sweden, November 20, 1904.*

French Chamber of Commerce in Montreal.—Montreal has a French chamber of commerce for the promotion of better trade relations with France. The chamber has, besides its active members in Montreal, a very large body of associate members in France. It publishes a monthly bulletin, which is in its eleventh year. Many of the newspapers of Canada receive this bulletin and republish the communications that appear in it. At a session of this chamber of commerce on October 27, 1904, it was voted, in compliance with communications received from France, where the trade earnestly wishes more effective methods for the quickening of French commercial relations with the Dominion, that committees of commerce be organized in the principal trade centers of Canada, with which the Montreal French chamber will maintain constant interchange, and thus find the best means to advance the trade of the Dominion with France.

It is surprising that as yet no effort has been made to establish an American chamber on Dominion soil. The very proximity of Canadian centers of trade to our own trade centers seems to have caused negligence where energetic enterprise should have been most on the alert.—*James H. Worman, Consul, Three Rivers, Quebec, November 1, 1904.*

German Foreign Trade in 1904.—During the first nine months of 1904 Germany's imports amounted to 4,765,000,000 marks (\$1,134,070,000), exceeding those of the corresponding period of 1903 by 139,500,000 marks (\$33,201,000). During the same time Germany exported wares valued at 3,824,000,000 marks (\$910,112,000), a gain of 58,000,000 marks (\$13,804,000) over the exports of the first nine months of 1903. Germany now holds the third rank among the

exporting nations of the world. More than nine-tenths of Germany's exports are manufactured articles, textiles being first in value.—*George H. Murphy, Vice and Deputy Consul-General, Frankfort, Germany, November 7, 1904.*

Steam Plows in Sweden.—A Gothenburg newspaper recently printed an article which indicates the advance in modern agricultural machinery in Sweden. The paper reported that the Helsingborgs Sockerfabriks-Aktiebolag (Sugar Manufacturing Company of Helsingborg) had purchased from England a steam plow, with two locomobiles, at a price of 50,000 crowns (\$13,400). The plow has been used at Vestraby this fall with favorable results, only three persons being required for its operation, while about 15 acres can be plowed per day. It is remarked, moreover, that the use of steam plows has been tried only on a couple of other places in the province (Skane). Thus there ought to be a market for American steam plows on the larger estates in the province.—*Robert S. S. Bergh, Consul, Gottenborg, Sweden, November 21, 1904.*

Trade Opportunities in Persia.—The German consul-general at St. Petersburg invites the attention of German exporters to trade opportunities in Persia, and reports that there is a growing demand there for letter paper, envelopes, window glass, mirrors, house furniture, umbrellas and parasols, bicycles, automobiles, and carriages. Persians of both sexes are adopting European styles in some articles of dress, including hats and laundry goods. Ready-made clothing and shoes may eventually find a good market in Persia.—*George H. Murphy, Vice and Deputy Consul-General, Frankfort, Germany, November 11, 1904.*

Use of Food Preservatives in Germany.—The following article from the Frankfurter Zeitung of November 19, 1904, was transmitted by Vice-Consul-General George H. Murphy, of Frankfort, under date of November 30, 1904:

On Tuesday and Wednesday of this week (November 17 and 18) the subject of conserved food products was discussed at a meeting of manufacturers and dealers interested in this line of wares. Under the heading of conserved food products are included conserves and preserves of all kinds, smoked and pickled meat and fish, as well as fruit juices, marmalades, etc. The use of chemical conserving materials, such as formaldehyde, boron, borax, salicylic acid, sulphurous acid, and benzoic acid is generally regarded as a necessary evil. Only as small quantities as are absolutely required should ever be used, and for this reason the maximal limits have been determined. From a medical standpoint the use of these materials is opposed, owing to the fear that they may possibly exert an injurious influence on health. It

was this opposition which led to the adoption of a law prohibiting the use of such materials in the conservation of meat, though it is also probable that a desire to restrict the importation of meat into Germany exerted some influence in the matter.

Some physicians, however, assert that in small doses these preservatives are not injurious, as it has been proved that the kidneys pass all such matter without suffering any harm. This is not, however, convincing, as it has not been shown that none of the other organs have been injured by the constant use of food containing salicyl, boron, etc. Many persons find after taking powders containing these substances that their nerves are very disagreeably excited.

Meat manufacturers are especially anxious for the revocation of the prohibition against the use of boric acid in Frankfort sausages, as it is thought to be almost impossible to manufacture them for exportation without using boron. It is worthy of note, however, that a Frankfort firm has discovered a process by which sausages can be made without boron and remain good for a long time. Sausages made in this way are now, after having been critically examined in the United States, admitted unchallenged to entry there in large quantities.

Government Aid to Venezuelan Sugar Producers.—Owing to the high tax imposed on aguardiente the demand decreased and that produced from the last sugar crop was left on the hands of the producers until the time grew near to begin to produce the next crop. In this emergency the President of the Republic ordered the purchase, through the Government agencies, of the entire product of aguardiente. This measure, it is stated by a correspondent at Valencia, relieved the crisis, and provided work for more than 8,000 laborers on the plantations of the State of Carabobo. A sequel to this purchase by the Government was the announcement from Valencia that the superintendent of the agency for liquors and tobacco at that place, at the order of the Chief Executive, had caused to be emptied into the river 10,000 casks of aguardiente from the quantity that was contained in the storehouse. This was pronounced a means of salvation for the next crop that will confer great benefits on the producers.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, November 29, 1904.*

Strikes in Germany.—During the months of July, August, and September 678 strikes were commenced or were in progress in the German Empire. During the same period 579 strikes were brought to a close. Of this number 165 were successful, 203 were unsuccessful, and 211 were partially successful. A large majority of these strikes took place in the mining and building industries.—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, November 29, 1904.*

Potatoes from Radishes.—English newspapers are giving interesting details of a process whereby radishes are transformed into potatoes. The process is the invention of a Frenchman, Monsieur Molliard, of Paris. He takes a very young radish and cultivates it in a glass retort, after a process invented by Pasteur, in a concentrated solution of glucose. Starch then develops plentifully in the cells of the radish, which swells out, loses its pepperiness, and acquires practically the consistency, flavor, and especially the nutritive properties of the potato. It is not claimed that the latter vegetable will be at once superseded, or yet that it will be cheaper to change radishes into potatoes than to cultivate the latter in the ordinary way. But M. Molliard's discovery is regarded as one which may have far-reaching consequences.—*Frank W. Mahin, Consul, Nottingham, England, November 30, 1904.*

Unemployed Labor in England.—According to the Frankfurter Zeitung of November 25, 1904, the percentage of unemployed laborers in England is very large. Information from private sources puts the number in October, 1903, at 200,000, while some press reports for this year estimate it to be as high as 600,000. The statistics and reports of the trade unions and other sources are agreed that the number is at least 100 per cent greater than in 1903. The percentage of skilled workmen among the number is greater than ever before.—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, November 29, 1904.*

Russian Fruit Crop.—The fruit crop was not quite satisfactory. In the Kerson, Bessarabian, and the Lower Volga provinces the fruit trees suffered from the spring frosts, summer droughts, and insects; in other provinces they suffered from cold and too much rain. The most successful crops were pears and plums. Apples and cherries were scarce almost everywhere. The harvest of grapes in Crimea and Bessarabia was unsatisfactory; in some places they did not ripen. In the north Caucasus the harvest was an average one, but the quality was not everywhere satisfactory.—*Ethelbert Watts, Consul-General, St. Petersburg, Russia, November 18, 1904.*

Oak Staves wanted in Solingen, Germany.—I have an inquiry for 2,000,000 American oak staves and bottoms, to be delivered c. i. f. Rotterdam, for cash, in the following sizes in inches:

Staves, cylinder-sawed, with flat ends: 24 long, 9½ wide, five-eighths thick; 28 long, 11 wide, five-eighths thick; 30 long, 12 wide, five-eighths thick.

Bottoms, parts: 14 long, 20 wide; 16 long, 24.5 wide; 18 long, 26 wide. Thickness of bottom parts, 20 millimeters (0.788 inch).

Any offers or information on the above which I receive will be immediately referred to the inquirer.—*Joseph J. Langer, Consul, Solingen, Germany, November 23, 1904.*

American Port for Canadian Liner.—The attempt to keep the St. Lawrence open for navigation later in the fall, and to make possible an earlier opening of navigation in the spring by the introduction of ice breakers having wholly failed, there is now a project on foot to have the Allan Royal Mail Steamship Company, of Montreal, change the location of its ports on both sides of the Atlantic. It is suggested that Glasgow be chosen as the British port of departure and New York as the American port of entry. The smaller crafts of the fleet will continue on the old route between Liverpool and Montreal, but the largest boats, such as the *Parisian*, rumor has it, can not advantageously be continued on the old passenger traffic route.—*James H. Worman, Consul, Three Rivers, Quebec, December 19, 1904.*

Cotton Growing in Burma.—Reports from Burma, published in England, state that the total estimated area under cotton in that dependency in the year 1904-5 is 180,594 acres, an increase of about 3,000 acres over the area in preceding year. It is stated that early rains have been favorable everywhere, and the satisfactory expansion of the cultivation is attributable partly to this cause and partly to better prices ruling last season. Standing crops are in good condition and the prospects are excellent.—*Frank W. Mahin, Consul, Nottingham, England, November 30, 1904.*

Catalogues and Price Lists Entering Canada.—Under date of December 10, 1904, United States Commercial Agent Gustave Beutelspacher, Moncton, New Brunswick, transmits the following newspaper clipping relative to a circular issued by the Canadian department of customs covering the entry of catalogues and price lists into the Dominion:

The department of customs has issued a circular advising collectors that the free entry of catalogues and price lists is to apply when they are imported for wholesale purposes only. These would usually be addressed to dealers or traders. Duty at the rate of 15 cents per pound under tariff item 126 is to be collected on circulars, fly sheets, and other advertising matter (except catalogues and price lists for wholesale only) when imported by mail, addressed to individuals, or otherwise. The distribution of advertising matter being ordinarily of

interest to the sender, collectors are advised in respect of quantities advertising matter weighing over 1 pound in the aggregate from the same exporter, that they may notify the sender as to the amount duty payable thereon and state that the advertising matter will be forwarded as addressed on prompt remittance of duty. When duty remains unpaid for sixty days, the matter is to be treated as unclaimed and a special notation made thereof without entry on the usual "unclaimed list of uncustomed goods." At the expiration of six months the inspector may direct the matter to be destroyed in default of payment of duty, if the same can not be sold for a sufficient sum to pay duty and charges, as provided in section 37 of the customs act.

Adulterated Wines in Germany.—The following is an extract translated from the *Frankfurter Zeitung* of December 1, 1904, transmitted by Vice-Consul-General Murphy, of Frankfort, relative to the system which prevails in Germany of "stretching" wines—that is, increasing by the addition of sugar and water:

STUTTGART, November 28.—The insufficiency of our wine inspection was shown in connection with the trial here last Saturday of certain persons charged with having sold adulterated wine. During last winter and spring several lots of Palatinate wine, amounting altogether to 17,000 liters, were seized here. This wine had been sold and delivered by two dealers, N. Eissenhardt, in Landau, and J. Jungermann. The experts were not unanimous in their decision. Four of them basing their opinion on the taste and appearance of the wine, agreed that it had been "stretched" with sugar and water. On the other hand, three wine chemists, after examining the wine, decided that there had no fault to find with it, as it had received only the treatment which is customary in the Palatinate. The criminal court at Stuttgart accordingly ordered the wine to be surrendered to its owners. A witness from the Palatinate testified that there is no demand there for pure wine.

Canadian Trade with the West Indies.—Under date of December 8, 1904, United States Consul-General Holloway, of Halifax, Nova Scotia, transmits the following article from the *Canadian Land and Water Gazette* for November:

The extent to which our trade with the West Indies is expanding must be very satisfactory to those at both ends, who have been zealously devoting their energies to it. This fall the enlargement of our exports to Bermuda, the Windward Islands, Cuba, and Jamaica has been so great as to tax the steamers in the Canadian service to their utmost capacity. The business with Bermuda seems to be particularly good, for the *Beta* had to make an extra trip to Bermuda alone, coming back to Halifax in time to make her regularly appointed sail for Jamaica.

The *Unique* also carried a very large cargo for Bermuda, as well as a great quantity of goods for Habana. The increase has been chiefly

in mill products and products of the farm. Flour, mill feeds, oats, potatoes, and other products of our soil have been going forward in great quantities. In the mill products the West of course is the chief factor, but our own maritime provinces are contributing most largely of the farm products, and in an intermediate way they are sharing to some extent in the West's export of flour and mill feeds. There is also a notable increase in the export of manufactured goods, particularly of heavy hardware, furniture, and boots and shoes. Since the revival in the sugar industry larger quantities of sulphite of ammonia have gone down to be used in fertilizing the canefields. This is one of the indirect ways in which Canada benefits by the removal of the sugar bounties.

Our trade with Habana has been remarkably good this year; three large cargoes have been sent already and half a dozen more are yet to go. Shipments of potatoes have been very large, amounting to about 40,000 barrels. Business with the West Indies generally is steadily improving, and it may be taken as a good sign for the near future that the first islands to be heard from—St. Kitts and Antigua—report that the new sugar crop will be a "bumper" one.

Distress in Glasgow.—It is estimated that at the present time there are from 13,000 to 15,000 men in Glasgow in enforced idleness. If the district about Glasgow is considered the number is from 20,000 to 25,000. Nearly every line of industry is represented in this army of unemployed, but probably the greatest number are from the building and kindred trades. Not since 1885 have there been so many unemployed. In Glasgow 3,500 have applied to the city government for relief by seeking to be employed in its service. These applications have been made in response to a scheme of the city government for the relief of the most necessitous and deserving cases. The stagnation in business is well nigh universal.—*Samuel M. Taylor, Consul, Glasgow, Scotland, December 6, 1904.*

German Commercial Mission to Abyssinia.—Under date of December 6, 1904, United States Consul Swalm, of Southampton, England, transmits the following extract from the London Times of the same date, being a cablegram from Berlin, dated December 5:

In the course of the present month a special German mission will proceed to Abyssinia to establish commercial relations between that country and Germany. At the head of the mission will be Councillor of Legation Doctor Rosen, of the foreign office, and the other members will include Count Victor Eulenburg, secretary of legation; Vice-Consul Schüller, of the politico-commercial section of the foreign office; Commercial Councillor Bosch as commercial expert, and Doctor Rosen, of Breslau, as scientific expert. A military guard, numbering about eight men, will accompany the party.

Shipment of English Pig Iron to the United States.—The were no shipments of pig iron from the Middlesbrough district the United States for the eleven months ending November 30, 1903. For the corresponding period in 1902 there were 80,440 tons, and for the same period in 1901 there were 156,867 tons shipped. Cumberland hematite is quoted 55s. 4½d. (\$13.40) and Cleveland 47s. 3d. to 48s. 7½d. (\$11.49 to \$11.83).—*H. Clay Evans, Consul-General, London, England, December 7, 1904.*

Wrecks on the British Coasts in 1903.—According to the board of trade return just issued, 5,765 casualties to British vessels were reported on or near the coasts of the United Kingdom from July, 1902, to June, 1903, an increase of 447 over the preceding year. The number of lives lost was 624, a lower number than in any of the previous twenty-four years, for which the annual average loss was 1,613. The lives saved from the wrecks of 1903 numbered 2,624.—*Joseph Stephens, Consul, Plymouth, England, November 26, 1904.*

Electric State Railway Experiments in Sweden.—Under date of November 20, 1904, United States Consul Robert S. S. Berg at Gothenburg, Sweden, reports as follows: In the spring the railway board petitioned the Government for permission to erect electric transmitting apparatus on land belonging to the State, between Tomtebodå and Värtan, in order to carry out the experiments in electric railway traction, for which a grant of 500,000 crowns (\$134,000) had been made by the Riksdag. At Tomtebodå station double wires will be used, and at Värtan the contact system will be employed for transmitting the current from the power station to the electric locomotive or motor car, the rails serving for the return current. For the experiments a high-tension, one-phase, alternating current will be used, the tension and frequency of which will vary according to requirements. This question, so important for the whole country, has for some time been considered by the board of trade, and the board has recommended that the request of the railway board be granted, providing the permission to erect and use the apparatus be limited to a certain period, say five years, and that private rights are protected.

Italian Emigration in Foreign Steamships.—In 1902 more than 252,000 emigrants left Italian harbors to find homes in foreign countries. Of this number 151,000, or 60 percent, went in foreign vessels and 100,254, or 39 per cent, in Italian vessels. In 1903 the emigrant traffic from Italian harbors was as follows: In Italian steamships

113,589 (41.25 per cent); in English steamships, 59,491 (21.60 per cent); in German steamships, 49,491 (18.02 per cent); in French steamships, 45,731 (16.60 per cent); in Spanish steamships, 6,922 (2.52 per cent); total number of emigrants sailing from Italian ports, 275,224.

During the past two years Italy has prospered industrially, and its manufacturers are beginning to take an interest in the merchant marine. It is claimed that \$5,790,000 of the hard-earned savings of Italians seeking homes abroad go, unnecessarily, into the treasuries of foreign steamship companies. If new twin-screw boats should be built, fitted up with the same comforts which foreign vessels offer to emigrants, the chances are that the Italian merchant marine would secure the major part of the traffic.—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, November 10, 1904.*

Depressed Conditions in Saxony.—For some time past the lace and dress trimming industries in the Erzgebirge and Vogtland, in Saxony, have not been prospering. Four or five years of unparalleled prosperity are being followed by a general depression; wages are sinking, and many firms are at the point of bankruptcy. The relations between manufacturers and workmen are not satisfactory. Although no such conflict as that which proved so ruinous to Crimnitzschau last year is pending, still the outlook is not encouraging. It is claimed that too many new firms have been established, and that the increased competition has exerted its influence equally upon the market price of the goods manufactured and the rate of wages. Another main cause is the war in the Far East and the inability of many Russian firms to meet their obligations to manufacturers here.—*Ernest L. Harris, Commercial Agent, Eibenstock, Germany, November 18, 1904.*

Canadian and English Woolen Industries.—The Canadian commercial agent at Leeds and Hull, the center of the Yorkshire woolen industry, reports to the Trade and Commerce Department that he considers it hopeless for Canada, under existing conditions, even with a protective tariff of 30 per cent and freight charges for 3,000 miles in its favor, to compete with the British woolen manufacturer. Canada may possibly have a fighting chance in the cheaper and poorer grades, he says, but in the finer cloths "she is not in the race, but is flagged halfway along the track." He suggests that the only way in which Canada will ever become able to compete is by importing heads of departments who are graduates of textile schools, and also English workmen and their families. He also advises the establishment in Canada of schools of practical training, saying, "I would here suggest to the merchant princes and wealthy men of Canada the advisability of

establishing scholarships in connection with technical education which would enable some of the bright Canadian youths to take a thorough course in textile and technical departments of colleges of this district. I know of nothing in this regard which should redound more to the fame of the donors, and from which Canada herself would reap many real business advantages in years to come."—*W. R. Holloway, Consul General, Halifax, Nova Scotia, December 14, 1904.*

New Smelter in Mexico.—Under date of November 26, 1904, United States Consul James A. Le Roy, Durango, Mex., reports as follows: It is stated that a large new smelter at the important mining camp of the Velardeña Mining and Smelting Company (now regarded as a branch of the American Smelting and Refining Company), located between the Mexican International and Mexican Central roads in that State (Durango), will now be speedily built. Its capacity will be 1,000 tons, and perhaps more; it will be equipped in the most modern style for copper matte as well as silver-lead smelting. The old smelter of the company will be abandoned when the new one is completed. It will be a custom smelter.

British and American Goods in New South Wales.—There are no discriminating taxes levied on American trade in New South Wales, but there is a strong sentiment favoring British goods, without regard to quality or price. A dealer handling one kind of goods for many years resents the attempt to bring anything new into the market. The old-established firms are not, therefore, generally the dealers to handle American goods in Australia.—*Orlando H. Baker, Consul, Sydney, New South Wales, November 19, 1904.*

Uruguayan Potato.—The Paris correspondent of the London Times says: "At the last meeting of the Academy of Science particular notice was given of a new variety of potato that grows best in damp soil. It has been developed by selection by M. Laberge, of Verrieres, Vienne, from a wild Uruguayan variety. It yields 17 per cent of fecula or starch. When grown in dry soil the return does not exceed 10,000 kilograms (22,047 pounds) per hectare (2.471 acres), while in damp soil it yields 90,000 kilograms (198,414 pounds.)"—*Frank Mahin, Consul, Nottingham, England, December 15, 1904.*

Paper in Guatemala.—The *Revue de Commerce*, Paris, remarks that there is not a paper manufactory in Guatemala. The country, however, possesses in abundance the raw materials for the manufacture of paper.

During the year 1903 Guatemala imported the following paper goods:

Value of paper goods imported into Guatemala from the leading countries in 1903.

From—	Registers.	Paper, cardboard, etc.
Germany.....	\$1,052	\$18,262
France.....	460	(a)
United States.....	275	9,736
England.....	207	5,213
Spain.....		7,425

^a Not given.

It is to be noted that in 1901 America held the first place, while in 1903 Germany is first. "America," says the *Revue*, "has a great advantage over other countries, the freight from San Francisco to San Jose being cheaper than that from Europe." The houses exclusively occupied in the trade in paper are F. Goubaud et Cie. and J. M. Lardizabal et Cie., both of which are French firms, and P. J. Guirola et Cie., a Guatemalan firm.—*Thornwell Haynes, Consul, Rouen, France, December 6, 1904.*

German Shipbuilding.—From the following figures it will be seen that Germany's greatest efforts are brought to bear on the commercial fleet and that the country has hopes of becoming the greatest carrying power of the world.

In 1903 Germany built 507 ships of 277,055 registered tons, against 333 of 208,835 registered tons in 1898. Of these 507 vessels, 12 were for the navy; 294, of 248,562 registered tons, were for the commercial fleet; 201, of 28,493 registered tons, were for the river and canal fleet. The increase in the tonnage of the commercial fleet of more than 100,000 registered tons in 1903 is a matter of considerable pride. This development is bound to continue, for German foreign commerce is ever on the increase.

Of this number of ships Germany built 56, of 20,406 registered tons, for other countries, while she in turn had 33 vessels of 37,038 registered tons built in foreign docks.

Although conditions at present in the German industrial world are very depressed, still it is claimed that the number of ships in course of construction is not less than in 1903.—*J. F. Monaghan, Consul, Chemnitz, Germany, November 28, 1904.*

Proposed Canadian Tariff on American Lumber.—At a meeting of the board of trade of Vancouver, held on December 11, 1904, the following resolution was passed:

Whereas the existing tariff conditions, whereby American lumber and shingles are on the free list in Canada, while in the United States

Canadian lumber is taxed \$2 per thousand and Canadian shingle 30 cents per thousand, are very detrimental to the lumber industry in British Columbia, the market for second-grade lumber, which forms the largest part of the output, being practically supplied by the United States manufacturers; and whereas very large amounts of capital are invested in the industry and very large numbers of men are employed; be it resolved that the Vancouver Board of Trade do not too strongly impress upon the Dominion government the necessity of import duties being enacted equal to those imposed by the United States; and, further, that the question is urgent and, in the opinion of this board, should receive the attention of the government at the earliest possible moment; and be it further resolved that a copy of this resolution be forwarded to the boards of trade in the province asking for their indorsement, to Hon. Sir Wilfrid Laurier, to the cabinet ministers, and to the members of parliament of British Columbia.—*L. Edwin Dudley, Consul, Vancouver, British Columbia, December 12, 1904.*

Nicaraguan River and Coast Steamship Service.—San Juan del Norte is in a state of pleasant excitement at the prospect of a revival of the river steamboat service. It is reported, with every appearance of truth, that a new company has been formed, the English stockholders in the Caribbean and Pacific Transit Company having been induced to sell their interests, so that now President Zelaya owns the controlling amount of stock. The name of the new company is not yet known here. The first steamer for the interior leaves to-day. It is said that all the steamers formerly owned by the Caribbean and Pacific Transit Company will be run under better management and under improved conditions, that there is to be a new harbor tug, and that the bar will be kept dredged. In connection with the line, it is expected to run a coasting steamer from Cape Gracias, Bluefields, San Juan del Norte, and Limon to collect and distribute freight. In addition, it is hoped that the Atlas steamers will renew their service.—*John Thomas Hill, Consul, San Juan del Norte, Nicaragua, November 29, 1904.*

Trade of Brazil with the United States.—In the first six months of 1904 the exports of Brazil amounted to \$85,612,500, and the imports to \$57,617,500. The United States took 41.86 per cent of Brazil's exports, but supplied only 11.57 per cent of its imports.—*Geo. J. Murphy, Vice and Deputy Consul-General, Frankfurt, Germany, November 19, 1904.*

Flour-Milling Industry of England.—The Maritime Merchant publishes an interview with a Halifax merchant, recently returned from England, in which he says:

The flour-milling industry of England is now specially prosperous. On account of the comparatively low price of Russian and Indian

wheat, as compared with that of the United States, the millers are able to mix it with Canadian wheat and thus beat out American competition in flour. I was rather surprised to learn that Liverpool is now the second largest flour-milling center in the world. Wheat has been carried during the past season from Montreal to Liverpool at the extremely low rate of 2s. 9d. [67 cents] a ton, that figure being lower than the British farmer could get it railed from his country station to the mill.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 16, 1904.*

NOTE BY BUREAU OF STATISTICS.—The imports of flour into the United Kingdom during the calendar year 1903, according to British official statistics, amounted to 11,772,174 barrels, valued at \$47,368,152, of which 9,211,123 barrels, valued at \$36,825,151, were imported from the United States, leaving for all other countries 2,561,051 barrels, valued at \$10,533,000.

New Process for the Production of Pig Iron.—The Dominion Iron and Steel Company has, it is understood, decided to adopt at its works at Sydney, Nova Scotia, a new and inexpensive process for the manufacture of pig iron, utilizing waste iron ore, which costs from 60 to 75 cents a ton. Iron ore in this condition can be used only when it is solidified. For a great many years chemists endeavored to solve this problem, but it was only a few years ago that W. Owen, consulting engineer and foreign representative of Bruck, Kretschel & Co., steel manufacturers, of Osnabrück, Germany, made the discovery. Since then the process has been adopted by seven German and two or three English steel companies, with eminent satisfaction. The waste is first solidified, usually in bricks, and in this condition is placed in blast furnaces, when pig iron is produced. The plant which the Sydney steel company proposes to install will cost about \$8,000, and will have a daily output of about 75 tons. It will be the first of the kind erected on the continent, and the company will have the exclusive rights for the Dominion of Canada.—*George Hill, Vice-Consul-General, Halifax, Nova Scotia, November 22, 1904.*

American Machinery for Canada.—The Westinghouse Electric Company, of Pittsburg, will manufacture for the Cataract Power, Light, and Traction Company the engines and machinery for their new plant at Hamilton, Ontario.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 9, 1904.*

Causes of the Decline of British Agriculture.—Several causes have been assigned for the decline of British agriculture and the depopulating of the farms. One which is potent in some localities has not been mentioned. In the fen districts of Lincolnshire roads

are very few. Large and productive farms are practically without them, and the producer often misses rising markets and is forced into falling ones because transport is impossible. Laborers will not accept good situations in such districts, because they are shut off from the outer world at certain times of the winter, or because their children can not reach the schools for lack of passable ways, or for other all sorts of reasons. This "rural remoteness" explains to some extent the decline of farm values and the drift from land to town. New and shorter roads are demanded, and the authorities seem to be awakening to the necessity.—*Frank W. Mahin, Consul, Nottingham, England, November 30, 1904.*

English Spiegel for Canadian Mills.—The Canadian Pacific Railway Atlantic Steamship Line and that railway have closed a contract for the transportation of 1,000 tons of spiegel from Liverpool to St. Ste. Marie, Ontario, which is the first contract of its kind made by a Canadian company. The contract was brought about by the Algonquin Steel Company purchasing 10,000 tons of English spiegel, to be used in the manufacture of pig iron at the steel-rail mill. All the rail mills in the United States use a certain amount of English spiegel, and the Lake Superior corporation had opened up their coke blast furnaces they also secured some. The first shipment of 5,000 tons was brought over on the steamers *Lake Erie* and *Lake Manitoba* and shipped to the Soo over the Canadian Pacific Railway main line.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 1904.*

Traveling Salesmen as Trade Getters.—United States Vice-Consul-General George H. Murphy sends from Frankfurt, Germany, under date of November 11, 1904, the following statement from a report of the French vice-consul at Mogador, Morocco, in regard to German commercial activity in that country:

By their astonishing activity and wonderful patience the Germans have distanced all competitors here. They compete with us in sugar and with the English in tea and ironware. Our trade is declining because we have no traveling salesmen. On the other hand, the Germans themselves offer their products for sale, gather information in regard to what is wanted in Morocco, and carefully comply with the demands of the market in the matter of forms and colors. It is accordingly easy to understand why they are succeeding.

Cattle Census of Germany.—According to a German newspaper the German Parliament (Bundesrath) has voted to have an enumeration of the cattle throughout the Empire made on December 1, 1905.

According to instructions given by the ministry of the interior the local authorities of the State and of the town, and especially the teachers, shall assist, and any extra or special enumerators who may be appointed shall be paid for their services by the town and not the State. Cattle sales and fairs of any kind whatsoever which were to be held on the 1st or 2d of December must be postponed to some other date. A complete list of all cities and towns in the several districts must be inclosed when the full returns of this enumeration are sent to the Royal Statistical Bureau.—*E. Theophilus Liefeld, Consul, Freiburg, Germany, November 17, 1904.*

Ramie Fiber in Germany.—I desire to call attention to the growing demand for ramie in the textile industries of this country. The long, strong, and glossy fiber of this plant serves as an admirable substitute for flax, cotton, or silk, and only its present scarcity and cost prevent a largely increased consumption. If, as was so long and earnestly insisted by the late Professor Waterhouse, our southern States are specially adapted for the successful cultivation of this plant, it can not be too strongly urged that experiments in cultivating it be more widely extended. The raw material will find as ready a market in Europe as would flax fiber.—*Hugo Muench, Consul, Plauen, Germany, November 30, 1904.*

Canadian Cotton Trust.—Four of the leading cotton manufacturing concerns of Canada, representing a capital of some \$10,000,000 and employing nearly 6,000 hands, have formed a trust to centralize their interests at Montreal. The trust so organized is composed of companies having a total capitalization of \$5,833,600 in stock and \$4,164,000 in bonds, each company representing the following amounts: Dominion Cotton Company, \$3,033,600 stock and \$3,354,000 bonds; Merchants Cotton Company, \$1,500,000 stock, \$160,000 bonds; Montmorency Cotton Company, \$1,000,000 stock, \$550,000 bonds; and Colonial Cotton Bleaching Company, \$30,000 stock and \$100,000 bonds.—*James H. Worman, Consul, Three Rivers, Quebec, December 21, 1904.*

Potato Yields in England.—In addition to the instances noted in my report dated October 14, 1904 (Daily Consular Reports No. 2124, December 5, 1904), correspondents of local newspapers announce some remarkable potato yields as the result of their fall digging, despite the rather unfavorable season.

One farmer says he raised, without the aid of fertilizer, from one very small Grange Defiance potato weighing a quarter of an ounce, 36 pounds. Another claims to have realized 361 pounds from a half-

ounce Eldorado. In another case 7 pounds of Eldorados are all to have produced 3,019 pounds. According to still another farm ton to each pound of seed was the rate of yield of a crop of Eldorados. The same farmer says that 190 plants of Duchess of Cornwall potatoes produced 840 pounds. From 2 pounds of Eldorado another instance, were realized 2,491 pounds, after a struggle against caterpillars and aphids. The yield per root averaged about 8 pounds. The farms reporting these remarkable yields are in the adjoining county of Lincoln, and the name of the farmer is given in each case. *Frank W. Mahin, Consul, Nottingham, England, December 12, 1904.*

Canadian Transcontinental Railway.—Under date of November 22, 1904, Vice-Consul-General George Hill, Halifax, Nova Scotia, reports as follows: The enormous increase in immigration into the Northwest Territories and the growing necessity for a transcontinental railway to the Pacific coast forced the last Parliament to vote a subsidy of 75 per cent of the cost of construction to the Grand Trunk Pacific to build a transcontinental line to the Pacific Ocean to develop western Canada and allow its products to reach the sea through Canadian ports. Twenty-five separate parties of engineers are already at work on different sections of the proposed line, which will be 3,000 miles long, crossing New Brunswick via Edmundston, passing through Winnipeg, and reaching the Pacific Ocean at Port Simpson, north of below Sitka, Alaska, where it will connect with steamers for Japan and the Orient.

Demand for Road Scrapers.—There has come under my notice within the last few days an inquiry for American road scrapers—cost, process of manufacture, utility, etc. I have given several names of American manufacturers and exporters, taken principally from trade journals. Any matter in the shape of announcements, catalogues, etc., sent to this consulate will be delivered to the proper dealer for such implements here. The price should be quoted f. o. b. New York.—*Frank S. Hannah, Consul, Magdeburg, Germany, December 7, 1904.*

Insurance Law in Chile.—I inclose herewith a translation of a law concerning insurance companies,^a which was promulgated on November 17 and published in the *Diario Oficial* of Saturday, November 19. The law is to go into effect six months from the date of its publication. It contains regulations governing its application, which are to be issued within

^a On file in the Bureau of Statistics, Department of Commerce and Labor, it may be consulted by persons interested.

months by the President of the Republic, will be forwarded as soon as they appear. The local representatives of the American companies most interested are gratified by the passage of this long-pending bill; they do not consider its provisions as unduly burdensome on their organizations, and believe that it will put an end to certain unstable local companies.—*Edward Winslow Ames, Secretary of Legation, Santiago, Chile, November 21, 1904.*

Penny-in-the-Slot Gas Meters in London.—At a trial in a London police court recently, in which a man was charged with stealing money from a penny-in-the-slot or prepayment gas meter, it was shown that the practice of using automatic gas meters for savings banks is quite common among poor people in London, particularly in some of the foreign quarters. A penny (2 cents) put through the slot in a prepayment gas meter enables the inhabitants of the house to use a certain number of feet of gas (in Birmingham it is 26 feet of gas if the corporation supplies the gas fixtures, and 31 feet if the user supplies them). One employee of a London gas company has stated that he knew of as much as £8 (\$40) being deposited in a meter, and the newspaper account I saw said that when gas company employees call to collect money from meters it is customary to take out only the amount due in each case, according to the index, and to return the additional amount of money to the hirer of the meter.—*Marshal Halstead, Consul, Birmingham, England, December 3, 1904.*

Harbor Improvement Project at Valparaiso.—I inclose a translation^a of a law recently passed by the Chilean Congress providing for the construction of important port works at Valparaiso on the basis of the "Kraus project," the magnitude of which may tempt American contractors to compete. As soon as the call for bids is issued it will be forwarded. Plans for the project have been sent to the Department of State from the Chilean legation in Paris.—*Edward Winslow Ames, Secretary of Legation, Santiago, Chile, November 22, 1904.*

Canadian Land Sales.—Official reports of Canadian Pacific Railway land sales show that in Assiniboia the sales in November totaled 14,130 acres for \$68,588 against 12,697 acres for \$59,613 in the same month last year, an increase of 1,433 acres and \$8,975. In Manitoba the sales were 1,904 acres for \$9,768 against 2,769 acres for \$11,878 last year; in Saskatchewan sales were 416 acres for \$2,499, or an

^aOn file in the Bureau of Statistics, Department of Commerce and Labor, where it may be consulted by persons interested.

average of \$6 an acre, against 2,240 acres for \$11,840 last year. Alberta sales were 7,740 acres for \$35,805 against 10,132 acres for \$44,648 last year, making a total of 24,192 for \$116,661, against 27,839 for \$127,986 last year. The sales of Vancouver town amounted to \$48,300 against \$19,865 last year, an increase of \$29,435. During the month of November the four most important railway lines all showed an increase in earnings in each week of the month compared with the earnings last year.—*W. R. Holloway, Comptroller General, Halifax, Nova Scotia, December 21, 1904.*

Motor-Car Savings Banks.—A current newspaper paragraph describes a "motor-car savings bank" which makes journeys in the north of France, stopping in villages on stated days to receive such sums as the thrifty country people, having saved, may be desirous of depositing in a savings bank. The motor car, which is electrically driven, carries a small safe, a desk with folding shelves for the depositors, accommodations for two clerks and a cashier and a seat for the driver.—*Marshal Halstead, Consul, Birmingham, England, December 3, 1904.*

Proposed Income Tax in Canada.—The chamber of commerce of Montreal, backed by many financial concerns of that city, has declared in favor of a law imposing an income tax as a source of revenue to the Dominion. It is held that, inasmuch as the principal mercantile bodies, as well as the large financial and manufacturing corporations, have declared themselves in favor of such a tax, it will be an easy matter to carry this measure through the present legislative session.—*James H. Worman, Consul, Three Rivers, Quebec, December 2, 1904.*

Rifle Factory in India.—It is stated in the press that a new rifle factory of the government of India, to be built at Ishpur, will be able to turn out close upon 30,000 rifles a year and to manufacture all the component parts and do all kinds of repairs, and that one of the principal purposes of the factory will be to realize the ambition of the Indian government authorities to have a reserve of 300,000 rifles. India now manufactures her own supply of ammunition.—*Marshal Halstead, Consul, Birmingham, England, December 14, 1903.*

Canadian Bounties.—During the fiscal year ended June 30, 1904, the following sums were paid in bounties by the Dominion government: Pig iron, puddled bars, \$863,641; wire rods, steel angles,

\$15,320; binder twine, \$25,452; lead, \$182,229. The bounty on wire rods is \$6 a ton, on structural steel \$3 a ton, on rolled plates \$3 a ton, and on lead refined in Canada \$15 a ton.

W. J. Harvey, of London, Ontario, has been appointed inspector of bounties under the provisions of the law by which a bounty of one-half cent a gallon is granted for the production of crude petroleum in Canada. This bounty went into effect June 8, 1904, and between that date and December 1 the sum of \$123,088 has been paid out on 365 applications. This represented a total production of 18,063,200 gallons. The bounty has greatly stimulated the industry.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 8, 1904.*

Cotton in the West Indies.—The Halifax Maritime Merchant, in referring to the cultivation of cotton in the West Indies, says:

According to the most recent information the estimated acreage now under cotton in the different islands is as follows: St. Kitts and Nevis, 2,550; Barbados, 1,900; St. Vincent, 1,600; Monserrat, 600; Antigua, 500; Grenada, 120; St. Lucia, Trinidad, and Jamaica, 100 each; Tobago, Virgin Islands, and Barbuda, 50 each, a total of 7,720 acres, the greater part of which has been sown with selected sea-island seed. The average yield should be 200 pounds of lint to the acre. It may reasonably be expected, therefore, that this season's exports of long-staple cotton from the West Indies will be 5,000 bales, and their total value \$500,000. The general tenor of the reports from the different islands is satisfactory and to the effect that the crop is healthy and the land well cultivated. The attempt is made to produce a high class of fiber for a special class of the British textile trade. The result of the present year's operations will largely determine the future of the cotton-growing industry in the West Indies.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 16, 1904.*

Peat Manufactures in Sweden.—It is reported that a French-Swedish company is now being organized in the county of Jönköping. The business of the company will be to manufacture peat fuel and peat litter. It is stated that French capitalists have promised to subscribe 800,000 crowns (\$214,400) for this purpose if Swedes interested will guarantee an equal amount. Lieutenant Rydell thinks that the plan can be carried out, because 400,000 crowns Swedish capital has already been subscribed, and he has conditionally bought several thousand hectares of peat bogs in the province of Småland at a price of 30 crowns (\$8.04) per hectare, or about \$3.25 per acre.—*Robert S. S. Bergh, Consul, Gottenborg, Sweden, December 12, 1904.*

American Underwear in Canada.—United States Consul-General W. R. Holloway, Halifax, Nova Scotia, December 8, 1904, transmits the following paragraph from the Halifax Maritime Merchant:

A feature of the spring trade is the presence of American underwear in Canada in increasing quantities. This is due to the novelty of the finish, which closely resembles lisle. If this finish proves attractive to the trade the Canadian manufacturer will no doubt adopt it also.

Increase in the Price of Steel Gun Barrels.—The price of steel gun barrels has gone up almost 100 per cent in the last few weeks, and manufacturers refuse to quote prices for future delivery. This rise is attributed to the advance in the price of steel. All the gun-barrel manufacturers are running full time and are taxed to the limit of their capacity. A manufacturer of note here, having one of the largest plants in the world, informs me that he has already booked orders from the United States for over 100,000 gun barrels, and that orders are coming in more rapidly than ever before. This condition with regard to gun barrels reflects similar conditions in the manufacture of guns. The trade is at present booming, and 1905 promises to be a record year in the industry for which Liege is noted.—*James C. McNamara, Consul, Liege, Belgium, December 14, 1904.*

Nova Scotia Coal in Upper Canada.—Heretofore Nova Scotia coal dealers have been able to sell but a moderate quantity of coal in Upper Canada. This year the water shipments from Nova Scotia coaleries to Montreal will be 1,500,000 tons. Up to the end of October the shipments were 1,170,095 tons, and as the companies will be able to send their steamers up the St. Lawrence until the middle of December, this will be added to materially before the close of navigation. Of this amount 1,000,000 tons were shipped by the Dominion Coal Company to fill its large contracts with the Grand Trunk and Canadian Pacific railways and the Montreal Heat, Light and Power Company. The next largest shipper was the Nova Scotia Steel and Coal Company. The Montreal shipments this year will be nearly half a million tons larger than in any previous year. The most pleasing feature, from a Nova Scotia standpoint, is the displacement of large shipments of Scotch and Welsh coal by the bituminous coal from this province.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 8, 1904.*

Ore Roasting Process.—It is reported that Mr. C. G. P. de Lamoignon on June 16, 1902, registered his method for roasting or calcining ores or other minerals. The crushed ore or mineral is continuously

into a drum fixed horizontally, which rotates at such speed that the powder stratum nearest the wall of the drum, which, because of gravitation, centrifugal force, and friction, is following the rotation of the drum, when it reaches or approaches the highest point of the drum falls down through it in a transverse direction while a current of air or gas is passing through the drum lengthwise.—*Robert S. S. Bergh, Consul, Gottenborg, Sweden, December 12, 1904.*

American Oatmeal in Canada.—Under date of Halifax, Nova Scotia, December 8, 1904, United States Consul-General Holloway transmits the following extract from the Halifax Maritime Merchant:

Several carloads of United States oatmeal have lately been dumped on the Canadian market. Unfortunately for the Canadian miller this can not under present conditions be prevented, and has to be met by a reduction in the prices of the domestic product. In the United States there has been a bumper oat crop, while in Canada the crop has been quite small, so the American miller has been able to send his oatmeal into the Canadian market and, after paying the duty of 64 cents, is able to undersell the Canadian article by 25 cents a barrel. The market at present is unsettled in consequence.

Electric Lighting of Trains.—The governmental railway authorities of Belgium have for some time been engaged in their workshops at a station in Verviers in building a locomotive equipped with a dynamo and accumulators for the distribution of electric lighting through the whole train of several cars. The accumulators are not to be placed in the cars, on account of their weight. The new cars intended for this experimental train will soon arrive at Verviers and the trial trip will be from Verviers to Brussels and return.—*James C. McNally, Consul, Liege, Belgium, December 13, 1904.*

Magnetic Separation of Ore.—The press here reports a new invention, by G. Gröndal, of Djursholm (patent registered in Sweden, November 14, 1903), of a process and apparatus for magnetic separation of finely crushed ore, by which it will be possible, practically speaking, to completely separate so-called "whole-grain" from "half-grain" and dead ore, and at the same time to enrich the "half-grain."—*Robert S. S. Bergh, Consul, Gottenborg, Sweden, December 12, 1904.*

Coal Cutting by Compressed Air.—A Sheffield firm has placed a new coal-cutting machine on the market that is creating much interest among miners in this part of England. It weighs only 150 pounds, is worked by compressed air, and is said to be wonderfully successful in

lightening the labor of the coal hewer and in making his work safer while at the same time waste is reduced to practically nil and the big lumps are produced which are so much in favor with both seller and purchaser. The machine is used in seams so steep that the miner cannot stand and so thin that he must crawl on hands and knees. A piston carrying a pick flashes backward and forward at terrific speed perfectly governed by a clever valve movement. The pick never strikes twice in the same place, being gradually moved across the coal by the lever, making a continuous undercut. The work is said to be very easy, the machine being pivoted in a specially devised concave cup.—*Frank W. Mahin, Consul, Nottingham, England, December 23, 1904.*

Attracting Immigration to Canada.—The Canadian authorities are increasing their efforts to encourage immigration to the Dominion. They announce that their advertising at the recent World Fair caused a lively interest throughout the United States and is likely to be followed by an increased flow of immigration to the Canadian west. It is intended to carry on a vigorous propaganda in New York State and Pennsylvania. Substantial results are anticipated from the movements through Great Britain of traveling cars decorated with trophies emblematic of Canadian agriculture. Lastly, it is hoped, by making a really first-class Canadian exhibit at Liege, Belgium, in the very midst of a frugal and industrious people well drilled in agriculture, to attract to the Dominion some of the best elements in Europe.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 21, 1904.*

Meat Inspection in Germany.—Consul-General Guenther, of Frankfort, Germany, transmits the following from the *Frankfurter Zeitung* of December 14, 1904:

The third quarterly volume of the statistics of the German Empire shows the number of animals which were submitted to the official meat inspection from July 1 to September 30, 1904. There were inspected in the German Empire 1,972,727 cattle (of which 145,681 were oxen, 128,553 bulls, 379,179 cows, 246,478 young cattle over 6 months, and 1,072,835 calves under 3 months), 3,508,461 hogs, 768,461 sheep, 44,223 goats, 23,827 horses and other solipeds, and 762 dogs.

Swiss Chocolate in Great Britain.—Though one of the world's largest manufactories of chocolate intended for eating is in England, the import of that article shows remarkable growth. It comes largely from Switzerland. During the last fiscal year Great Britain imported from Switzerland \$2,100,000 worth of chocolate, \$400,000 more than in the preceding year. Nearly one-half of Switzerland's entire export

of chocolate comes to this country. Such instances as this account for the solidifying of sentiment in Great Britain in favor of action of some kind to protect home industries.—*Frank W. Mahin, Consul, Nottingham, England, December 17, 1904.*

Fish Hospital at Vienna.—The Frankfort News states that since the beginning of the winter term a station for research and observation of sick fish has been established at the veterinary high school of Vienna, under the direction of Professor Doctor Fiebiger. Officials of this institution will investigate the biology and pathology of fish. One of the main objects of the researches will be to learn whether certain diseases of fish are transmitted to man, and if so, to what extent. The scientific diagnosis of the sick fish is affixed to each compartment containing them. Fishes are to be found suffering from smallpox and others from intestinal catarrh. A dolphin was brought to the institute with a disease which was diagnosed as inflammation of the lungs. The director is very reluctant about expressing an opinion with reference to the curability of fish diseases. At any rate instructive observations in the field of comparative therapeutics may be expected.—*Richard Guenther, Consul-General, Frankfort, Germany, December 22, 1904.*

New Brunswick Lobster Fishing.—According to the Halifax Maritime Merchant, the old regulations governing lobster fishing in Charlotte County, New Brunswick, have been restored. The open season now dates from December 15 instead of January 6, as last year. The fishermen are also allowed to take lobsters down to 9 inches instead of 10½ inches, as formerly. This will enable the fishermen along the coast to earn a living, as the canneries which were compelled to close under last year's regulations will be reopened this winter.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 8, 1904.*

Artificial Rubies.—A German paper states that artificial rubies have been produced in France by reducing small natural rubies into a very fine powder, which is melted in an electric furnace, cooled rapidly, and crystallized. The product obtained, from what was of little worth on account of minuteness, possesses a comparatively high value. The main difficulty encountered is to prevent cavities and fissures in the crystals. The new process can not be employed with emeralds and sapphires, as they become discolored by the action of the heat.—*Richard Guenther, Consul-General, Frankfort, Germany, December 10, 1904.*

Sources of Radium.—It has been discovered recently that the slime or residuum from the thermal springs at the city of Baden-Baden, Germany, contains very powerful radium. Prof. H. Gertel, of Weidenbüttel, Germany, says this radium is forty times more powerful than that found in the residuum of cold-water springs or in mud baths. Previously the residuum from the water at Baden-Baden was considered worthless by the scientific world and was discarded, but is now carefully collected and sent to laboratories. For hundreds of years, in fact since the time of the Roman occupancy, persons have claimed that this slime possessed healing qualities, but the matter was regarded by scientists as a superstition. The hot baths at Baden-Baden are very beneficial in the treatment of rheumatism, and are visited annually by thousands suffering from that disease.—*Joseph I. Britta, Consul, Kehl, Germany, December 17, 1904.*

Farming Corporation in Canada.—A large corporation has been organized for fruit growing and general farming in the Annapolis Valley. The company has secured options on thirty farms, with an aggregate acreage of 3,000, in the heart of the fruit belt, and proposes to set out 40,000 new trees, put in a box and barrel factory, install a canning and vinegar plant, and engage in general farming, cattle raising, sheep, and hog raising.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, December 21, 1904.*

Liberia's Imports of Clothing.—The clothing imported by Liberians during the December quarter, 1903, was 77 cases, valued at \$3,000, of which 58 cases, valued at \$1,772, were from England. This is no means the actual amount brought in. Liberians do not use much ready-made clothing, but when they do buy they prefer American goods. The major portion of the clothing worn is made to order in Europe and shipped to individuals in private packages, or the material is purchased from steamers from time to time and is made up by Liberian tailors. The Kroos are large consumers of fine cloth and suitings. Among the Vey and Mandingo peoples, the women use the finest cloth materials for dress. It usually consists of blue or black, corkscrew, worsted, silk, and broadcloth. American tailors might secure some of the trade here as well as American clothing houses.—*George W. Ellis, Chargé d'Affaires, Monrovia, Liberia, November 1904.*

Brazilian Indemnity and Bolivian Railways.—United States Minister Sorsby, La Paz, Bolivia, reports, under date of November 17, 1904, that a law was passed by the recent Bolivian Congress de-

cating the Brazilian indemnity fund, £2,000,000 (\$9,733,000), to the costs of studies and construction of railway lines in the Republic or in the service of capital that may be invested in the construction of said lines. In a later report Minister Sorsby says that the first payment of the indemnity fund, on deposit with the London Rothschilds drawing interest at $1\frac{1}{4}$ per cent per annum, has been delivered by that house to the Bolivian chargé at London for deposit in the Paris Comptoir d'Escompte, where it will draw interest at the rate of 3 per cent per annum.

American Flour Mills.—From personal information, I am able to state that the millers of Europe, especially of the Continent, have long since recognized American flour mills and their product as the best in the world, and that during the present year many millers from the Continent, ostensibly visitors to the St. Louis Exposition, came to the United States mainly to visit our factories and to acquaint themselves with the methods by which the preeminence was gained.—*James H. Worman, Consul, Three Rivers, Quebec, December 16, 1904.*



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No. 293.

FRENCH AUTOMOBILE SALON.

(From United States Consul Haynes, Rouen, France.)

A daily paper of Paris published, a few mornings ago, the following:

To-day the Automobile Salon of 1904 opens, that magnificent manifestation which brings together in the heart of Paris the most perfect productions of the automobile and cycle industries.

France is the only country which at present is able to offer to the world the spectacle of an industry "de luxe" so flourishing and of such a large number of manufacturers struggling unceasingly to perfect the means of rapid transportation. As in past years, the firms of Panhard et Levassor, Mors, Renault, Léon Bollée, Hotchkiss, Clément, Darracq, Richard-Brasier, Rochet-Schneider, etc., will be seen more flourishing than ever, and displaying vehicles more powerful, more robust, lighter, and more simple. By the side of these are the new constructors, who enter upon their careers with the experience in mechanical construction given them by the firms mentioned and, it should be noted, with the advantage of not having to experiment. These are Westinghouse, Delaunay-Belleville, Berliet, etc.

Germany, side by side with France, must be placed at the head of this progress with its celebrated Mercedes, of which nothing more can be said than that it has added to its reputation. The fact that its models are copied by all new constructors is a proof of its great merit.

Italy and Switzerland have in the Fiat, the Martini, and the Dufaux, some productions of high value.

England and Belgium exhibit automobiles much more satisfactory than formerly, and which seem less to be copies executed without thought than they once were.

America, finally, despite the distance, has managed to exhibit some of its machines, which can not yet be said to enter into competition with those of European manufacture, since they are not made for the same roads. But all the same the special manner in which they are constructed points to the fact that they will compete to some extent with automobiles made "wholesale" and "bon marché."

What, then, is the character of the "ensemble" of all these machines? It would appear that as last year the large houses making good motors

have sought rather to introduce modifications in detail than sensational novelties. These firms have continued to strengthen their "châssis" and their axles, to make their clutches more certain, to simplify the systems of water circulation, and to multiply the number of oil tributaries, this latter point counting for much in the preservation of the various parts.

Many houses have complicated their systems of ignition by doubling the number. This can hardly be called an improvement. The simple and strong magneto found on the Mercedes, Mors, Richard-Bras etc., inspires more confidence than the double system of ignition, which necessitates an electrician when a repair is necessary.

The motors have still a tendency to increase in power. There is no longer an 18-horsepower Mercedes, but those of 28-32 and 40-50 horsepower. The Panhard firm, by the side of its 35-horsepower 24-horsepower, has introduced a 50-horsepower. The Mors people make a 40-52 horsepower after their 19-24 horsepower and 24-horsepower. This will be one of the features of the salon. Renault Frères exhibit a 20-horsepower after having been content with 14-horsepower up to the present.

Finally, all these powerful "châssis" are lengthened, and have nearly uniformly a minimum length of 3 yards, permitting the establishment of coach work with side entrances.

This introduces the question of body building, which must be treated at some length, owing to the fact that coach work, always increasing in size, plays a considerable rôle in the construction of a complete automobile. Automobile coach work has not ceased to develop itself during the year 1904. The inconvenient "tonneau," which had been a favorite with early automobilists, had already been replaced by comfortable "wagons de voyage." By way of open "voitures" the phanton with side entrances sheltered by glass, with roof and back, alone remains. The real automobile "à la mode" is the large coupé limousine with doors, and top carried forward to cover the driver. It is with difficulty that this class of body can be constructed quickly and in an indifferent manner. With the increased length, the difficulty of construction also increase, and the productions called "bon marché" very soon show their unsuitability to stand the jolting of the road. Moreover, the distortion of the models by this class of coach builders, though supportable in small "tonneaux," frequently appears ridiculous and ungraceful when seen in connection with ambitious designs. Finally, the purchaser of one of the old designed 8 or 10 horsepower short machines could, without difficulty, find the money each year for a "tonneau" or two bucket seats of bad quality. But now it is no longer possible to buy a berline even of inferior manufacture every year, though a body with doors of bad construction can not possibly last more than that length of time.

For these three reasons it is evident that the coach builders of the "grand luxe" alone, employing only first-class materials, and surveying and studying very closely the designs of their models, are in a position to "habiller" the important "châssis" which are dealt with in this article. And it would be unjust, since a special article has not been devoted to these high-class coach builders, not to mention in passing those who do so much for the grace and beauty of these exhibitions: Kellner, Labourdette, Mühlbacher, and Rothschild.

There is one class of automobiles of which it can be said that it is

to replace the old-fashioned horse-drawn carriages. This is the electric. The "châssis" of these machines, of which the most praiseworthy models are the Mildé, Kriéger, Gallia, Electromotion, etc., tend to become lighter, the motors more supple, while the manufacturers of the accumulators search in every direction to reduce the weight of their productions. There can be no doubt that electric carriages have only a limited field by reason of their inability to get outside the large towns, nevertheless their utility in their own sphere is very great, and manufacturers of this type have by no means as yet supplied the demands of their Parisian customers and those of the large centers in France and abroad.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *December 17, 1904.*

FRENCH WINE PRODUCTION.

(*From United States Consul-General Skinner, Marseille, France.*)

The following table sets forth the total production, value, and import and export trade in French wines during the last few years.

Total production and values of French wines, and imports and exports of wine into and from France, 1900, 1901, 1902, and 1903.

Year.	Production.	Value.	Imports.	Exports.
	<i>Gallons.</i>			
1900	1,779,264,201	\$244,001,794	\$29,968,268	\$43,979,108
1901	1,581,134,988	183,779,039	16,358,294	44,020,984
1902	1,063,615,628	163,408,982	21,363,556	44,666,141
1903	936,318,634	183,037,496	29,133,157	41,096,069

The total production of 1904 is now estimated at 66,016,567 hectoliters (1,743,959,650 gallons). This surprisingly large total, which is larger than any since 1875 with the single exception of 1900, does not include 6,000,000 hectoliters (158,502,000 gallons) for Algeria and 160,000 hectoliters (4,226,720 gallons) for Corsica. Prices are naturally very low.

The amount of champagnes and sparkling wines exported from France and the share of Marseille in this trade are shown in the sub-joined table.

Exports of French champagne and sparkling wines, 1901, 1902, and 1903.

Year.	From France.		From Marseille.	
	<i>Liters.</i>	<i>Gallons.</i>	<i>Liters.</i>	<i>Gallons.</i>
1901	18,276,300	4,828,050	877,726	231,768
1902	19,112,300	5,048,996	984,366	260,039
1903	19,769,400	5,222,482	849,108	234,875

The cultivated area of the vineyards in France decreased from 4,280,510 acres in 1902 to 4,171,830 acres in 1903. The average yield per acre was 226 gallons.

The manufacture of "mistelle," or wine manufactured from raisins, increased from 256,871 gallons in 1902 to 621,321 gallons in 1903. The importation of wines into France is mainly represented by arrivals from Algeria and Spain. The imports from Algeria received at Marseille in 1903 amounted to 19,540,057 gallons.

CONSUMPTION OF WINES AND LIQUORS IN FRANCE.

The greater part of the enormous French wine production consists of light table wines which scarcely admit of export, and which constitute the national beverage. The abundance and cheapness of French wines have unquestionably decreased the consumption of highly alcoholic liquors.

EXPORTS OF FRENCH WINES TO THE UNITED STATES.

The value of French wines exported to the United States has been established by the French custom-house administration at \$1,598,000, \$1,437,078, and \$1,606,532 for the years 1901, 1902, and 1903, respectively.

According to our Bureau of Statistics, Department of Commerce and Labor, the value of French wines exported to the United States during the fiscal year ended June 30, 1904, was \$5,420,239. It is presumed that this great discrepancy arises from the fact that a large share of the French merchandise exported to the United States is transshipped in British or other ports, thus appearing in the French statistical returns as exports to the countries of transshipment rather than to the country of consumption. The looseness in crediting exports to the country where such exports are transshipped rather than to the purchasing country has created a false impression in France as to the importance of the United States as a customer.

ROBERT P. SKINNER, *Consul-General*

MARSEILLE, FRANCE, *December 20, 1904.*

SHOP FRONTS IN MALTA.

(From United States Consul Groul, Valetta, Malta.)

Owing to various and extensive public works now being carried on in these islands, there has been a great increase in the demand for labor, so great, in fact, that there is scarcely a country town that is not providing its quota of workingmen. Necessarily, this has increased wages to a very appreciable extent, and the people are earning and spending more than for many years past, which is having its effect in making business better among the local houses.

Malta is slow in adopting modern methods, but, in view of increasing prosperity, local shopkeepers are beginning to improve their premises.

and increase their lines of goods. Lately a shopkeeper on the principal street of Valetta secured from England an entire new front for his place of business. This was regarded as quite an innovation and his shop, gleaming with burnished brass and plate glass, was the cynosure of all eyes for quite a number of days. Upon consulting him, I found that he had, in forwarding his order, merely sent on a photograph of his old front, together with dimensions, and the new front was made and sent out to him. Since then I have been approached by several shopkeepers upon the same street. They have asked me for addresses of American firms making a specialty of shop fronts. I have searched through my various catalogues, but fail to find anything applicable. For this reason I desire illustrated catalogues and price lists from such American houses as may be interested. In quoting prices, I would suggest lowest export terms, f. o. b. New York, payment by draft upon London or documents to be attached to bills of lading. In sending me printed matter I would also suggest that several sets from each house be sent so that I can distribute them. I believe there is a chance for business to be secured if the matter is taken up at once. It would be well, also, for houses that interest themselves in the matter to provide their cable addresses and codes used.

JOHN H. GROUT, *Consul*.

VALETTA, MALTA, *December 16, 1904.*

BUILDING OF PORT DEITRICK, NICARAGUA.

(From United States Vice Commercial Agent Trimmer, Cape Gracias á Dios, Nicaragua.)

In accordance with an agreement between the Republic of Nicaragua and Mr. James Deitrick, the new custom-house and office building, erected at Port Deitrick for use of Government officials, will be formally accepted and occupied by them January 1, 1905. This building is one of the many erected at that port by the United States and Nicaragua Company, of Pittsburg, Pa., a corporation that has made and is making large investments in northern Nicaragua, developing its many natural resources under a mineral, agricultural, and navigation concession granted to Mr. Deitrick.

The work so far undertaken is progressing favorably, although at times building operations have been checked through lack of material. The Mosquito Indian, the most available laborer, did not at first take kindly to lumbering, and some difficulty was experienced in obtaining logs in sufficient quantities to carry on the work. This condition is, however, being rapidly overcome, and at present the company's saw-mills are running up to their capacity cutting lumber for the many buildings now under construction.

Wharves, shops, warehouses, stores, quarters for mechanic laborers, cottages for married employees, and other necessary ings have been completed and occupied.

A handsome hotel building, occupying a slightly position at the eastern end of the island on which the town is located, is rapidly ing completion. This island divides the waters of the Wanks on River at its mouth into two channels and extending, as it does, f into the Caribbean Sea, exposed to the prevailing trade winds, it an ideal place of residence at all seasons of the year.

A large river steamer, built by a well-known Pittsburg firm added to the company's fleet in June last, and has been making lar trips from Port Deitrick to the head of navigation. From point a survey, practically completed, is being made for a railway, when constructed will open up a large area of mineral and agtural land. A telegraph line connecting the company offices at Deitrick with the mining district is practically completed.

EDWIN W. TRIMMER, *Vice Commercial Agent*
CAPE GRACIAS A DIOS, NICARAGUA, *December 15, 1904.*

PILOT BREAD IN SAMOA.

(From *United States Consul-General Heimrod, Apia, Samoa.*)

Within the last few months the importation of pilot bread from United States shows a marked decrease, owing to the keen competition of New Zealand manufacturers and the low rates for steam transportation from Auckland to this port.

The price for pilot bread in San Francisco is 4 cents per pound; \$80 per ton, less 20 per cent and 2 per cent; tins, 40 cents; freight Apia by steamer, inclusive of landing, \$11. This would make price per ton \$73.72, and for 57 tins at 40 cents, \$20.80; total, \$94.52.

The price for pilot bread in Auckland is £14 (\$68.13) per ton, 10 per cent and 2½ per cent; tins, 1s. 4d. (32 cents); freight, (\$6.08); landing, 5s. (\$1.22), or £13 10s. 7d. (\$65.82.) Add 57 tins, 1s. 4d. (32 cents), or £3 16s. (\$18.25), making a total of £17 6s. (\$84.33). Thus the difference in favor of Auckland is \$10.19.

The merchants of Apia admit that the American pilot bread is superior in quality and suffers less through breakage than that shipped from Auckland, but as the consumer is generally not inclined to pay an advance price for the American product, the New Zealand bread is principally sold in this market.

GEO. HEIMROD, *Consul-General*
APIA, SAMOA, *November 23, 1904.*

FOREIGN TRADE OF COLOMBIA.

(From United States Consul Orr, Barranquilla, Colombia.)

IMPORTS.

There has been a steady increase in imports into Colombia from the United States. The people as a rule prefer American merchandise, and when the prices are right and the goods are properly packed, so as to reduce the duty as much as possible, the merchants will buy from American firms.

Of late American houses seem to show a desire to extend their business here, and it is my opinion that when they will seek the trade properly—that is, by proper salesmen, proper samples, and the proper packing of goods—they will secure their full share of the trade. One great advantage possessed by American exporters over European firms, which I have lately heard mentioned quite often, is that of proximity. An order placed in New York, for example, frequently brings the goods here in four weeks, whereas an order sent to Europe does not have returns for a much longer time, frequently four months or even more.

There seems to be an opening in this part of Colombia for the following American products, none of which are to be found in the market at present:

Beer.—Only German beer is imported, and none is made in Colombia. Large quantities are consumed in this city, and one would suppose that good American beer would sell here if properly introduced.

Wines.—Only French, Spanish, Italian, and some German wines are imported. Why can not American wines (including champagne) be sold here?

Cigars.—I have never seen or heard of American cigars being sold here, strange as it may seem. Certainly a better quality of cigar than that now sold in Barranquilla could be imported from the United States and put on the market at the price asked for imported cigars.

EXPORTS TO THE UNITED STATES.

During the fiscal year ended June 30, 1904, there was a large increase over the preceding year in the exports from the consular district of Barranquilla to the United States, amounting to \$2,153,723. The following is a list of the principal goods entering into this export:

Exports from Barranquilla, Colombia, to the United States in the fiscal year ended June 30, 1904.

Articles.	Value.	Articles.	Value.
Balsam.....	\$8,760	Cowhides.....	\$890,792
Coffee.....	3,560,866	Rubber.....	30,820
Goatskins.....	31,210	Miscellaneous.....	22,735
Gold bars.....	109,821		
Gold dust.....	38,965	Total.....	4,757,139
Straw hats.....	68,170		

The total value of the exports for the preceding year was \$2,600. About 60 per cent of the total exports of Colombia go to the United States. Without doubt these exports will continue to increase rapidly if the present peaceful conditions continue. The natural resources of the Republic are unsurpassed, and their development can not be said to have yet begun.

GOLD MINING.

Much attention is now being given to the mining of gold, especially in the state of Antioquia. A large number of Americans are engaged in mining in that region, and, if reports are to be relied upon, very large returns may be expected. All miners who have been in the field report a large district exceedingly rich in gold, covering both quartz and alluvial deposits.

There are in Colombia many thousands of acres of rich land, hitherto uncultivated, on which all tropical products can be grown. Much of this land is easily accessible.

CLAIR A. ORR, *Consul*

BARRANQUILLA, COLOMBIA, *December 10, 1904.*

ENGLISH FOGS.

(*From United States Consul Mahin, Nottingham, England.*)

The regular annual recurrence of thick black fogs on this island with winter, revives the discussion of ways and means to prevent or to disperse them. This year the discussion has been more serious and scientific than usual, and has brought important facts to the surface, coupled with suggestions for their prevention and cure.

The English fog is *sui generis*. The American is prompted to it by smoke. In a mild fog the perspective of a city street seems merely smoke-obscured, like a street in a great American manufacturing center. What is generally called a fog in the United States is but a mist—pure moisture in the air, devoid of the foreign substances which give the English fog its distinctive character.

The "London particular" is the worst of all fogs, but its type is not found in all English towns, at times, and even in the open country, where it possibly drifts from the smoky towns. The basis of the fog is smoke, to which the British isles are believed to be peculiarly subject from their situation. Scientists say that the topography of London renders it even more vulnerable than most other parts of England. The mist alone would be only a trifle, not necessarily unwholesome, but is easily dissipated by the sun, but it becomes charged with the immense quantities of smoke pouring from countless chimneys, the residue of soft-coal combustion. This so thickens the fog that it almost obscures the sun. It gathers at the worst after sundown, and becomes so

in the night that vehicle traffic may be impossible and the pedestrian must feel his way about as if blind. After sunrise, as a rule, the fog slowly disappears, till by noon the sun appears as a red ball. On rare occasions the fog may last all day undiminished, or it may come in the middle of the day, but the daylight prevents its being quite so bad as at night, since very near objects can be seen. A very thick fog seldom lasts at the longest over two or three days.

Generally speaking, the first fogs come with the autumn frosts—the time and atmospheric conditions corresponding with the American Indian summer. The air is perfectly still and the temperature relatively low. There is never fog in windy weather. The thickest fogs are usually in November, but in the number of fog days December leads, November is next, then January and October. The average annual number of fog days is 55 in London—45 from October to March and 10 from April to September. The clearest months are May, June, and July, when the least coal is burned. These proportions rule generally in all parts of England. The least fog is in stormy years—the most in cold and quiet ones.

The fogs are said to be less dense now than fifteen or twenty years ago, owing to the attempts to abate the smoke nuisance and to the growing use of gas and electricity for heating and cooking. It is argued that the rigid enforcement of antismoke laws would prevent the formation of thick, lasting, and deleterious fogs, but a recent opinion from a recognized authority is to the effect that fogs would form without smoke, though presumably not so thick as now. He says that clouds and fogs are formed by the air's moisture collecting about the myriads of minute dust particles in the atmosphere; that these particles are more abundant above cities than in the open country; that the dust is due to many causes, and is producible by the use of gas and electricity as well as of coal, though naturally the particles are of different character.

In a thick fog if one rubs his finger on an iron gate or the like he finds it coated with a greasy smudge, indicating the consistency of the fog. It is certainly unhealthful. The death rate increases with fogs, while pulmonic, pleuritic, and bronchial troubles are aggravated. The fogs injure furs and textile fabrics, and literally rot window curtains. They get into stores and dwellings, and are so dense in theaters that the performers are sometimes a blur beyond the orchestra stalls. They seriously interrupt business of all kinds. The railways suffer to an extent not generally known. The delaying of passengers is but a minor item. When a fog envelops the line extraordinary precautions are taken and expenses are enormously increased. Fog men to place detonators on the rails are stationed along the line, additional men are employed in all the outdoor work, the wages of engineers and firemen are increased, and after the fog heavy claims for

damages for detention of goods are met. These a railroad usually pays without contest to hold the custom of the shipper, who might transfer his business to a rival line.

A scheme to disperse fogs, discussed for several years but without definite action yet, contemplates the use of electricity from the towers of specially erected towers. So far as I have noticed, this is the only definite plan yet offered, though every fog fills the corresponding columns of the newspapers with suggestions.

FRANK W. MAHIN, *Consul-General*

NOTTINGHAM, ENGLAND, *December 19, 1904.*

PROGRESS OF NOVA SCOTIA IN 1904.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

The leading business men in Nova Scotia are satisfied with the trade conditions of 1904, although local conditions in certain portions of the province were not as satisfactory as in the past. It has been an especially trying year in Cape Breton, where the prevalence of small ice last winter, followed by the strike at the steel works, retarded trade considerably, resulting throughout the year in a number of business embarrassments. In fact, out of the 133 failures reported for the province, 46 occurred in the island of Cape Breton alone. The resumption of business at the steel works has restored confidence and the prospects for a largely increased business in 1905 are good.

Lumber markets throughout the world have been depressed and this has affected local trade. The hay crop was generally light, not up to an average yield, and consequently a large quantity was imported, necessitating the diversion of capital from local channels. The apple crop was large, but the quality was not up to the usual standard, and prices obtained were too low to allow of any great profit.

The liabilities were swelled considerably by one assignment in Halifax with an aggregate liability, secured and unsecured, of about \$400,000. Several other failures were of some importance, a large wholesale house at the beginning of the year, another large wholesale and retail business in March, a lumber concern in the summer, and a commission house this month, all at Halifax; besides these, Amherst, Yarmouth, and Windsor contributed their quota of failures, and during the month of December two rather large failures occurred at Baddeck.

Though the volume of trade in a few lines was not quite up to that of 1903, in other lines a somewhat larger trade occurred.

Industrially Nova Scotia has made satisfactory progress in 1904. The wealth produced during the year is estimated at \$92,000,000, of which manufactures is credited with some \$39,000,000. The Dominion

Iron and Steel Company is now producing wire rods, using its own steel made at Sydney, and it is expected that the manufacture of steel rails on an extensive scale will begin early in the spring. The Nova Scotia Steel and Coal Company has completed and has in successful operation a pig-iron furnace at Sydney mines and is expected to have its steel furnaces there ready in the spring. The Londonderry Iron Company has begun to operate a blast furnace at Londonderry, which produces foundry pig chiefly. Other manufactories which have been turning out large quantities of goods for years have also been adding to their output and thus increased the wealth of the province.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *December 31, 1904.*

FRENCH GLASS-MAKING MINERALS.

(*From United States Consul Haynes, Rouen, France.*)

In a conversation with Mr. L. F. Dévé, who is interested in the shipment of Fontainebleau, or silver, sand, Villeneuve sand, ground gypsum, plaster stone, plaster of paris, fire clay, and ocher from Rouen to all parts of the world, some facts were given me which will be of interest to certain parties in America. This is inferred because, in consequence of a report from this consulate concerning French gypsum, dated September 27, 1902, there were received many letters from persons wanting samples of the mineral, some even ordering several tons for trial, and others asking for freight rates from Rouen to Philadelphia, Baltimore, and New York.

The Fontainebleau silver sand gets its name from the district where found, Fontainebleau, near Paris, and from its purity, which makes it suitable for the manufacture of the finest glass. Mr. Dévé says it is worth about \$1.64 per 1,000 kilograms (2,204.62 pounds), f. o. b. Rouen. Last year he shipped some 3,000 tons by the steamer *Havso* to Montreal.

The two kinds of Villeneuve sand, the white and the gray, both generally used for the manufacture of bottles, are sold, he says, at an average price of 6 francs (\$1.158) per 2,204.62 pounds. He added that the export shipments of plaster stone, plaster of paris, fire clay, and ocher from this port are rapidly increasing. There were invoiced at this consulate for the fiscal year ended June 30, 1904, 341,726 pounds of ocher for New York.

All these minerals are found on the Seine between Paris and Rouen, and are brought down to the latter place in barges and transferred to ocean-going vessels. Unhappily, none of these are bound direct for the United States; as a consequence, Rouen dealers in other articles

as well as these minerals and American buyers are prevented making a mutually profitable exchange.

In this connection I beg to call the attention of parties interested in the reports from this office appearing in Advance Sheets of Consular Reports Nos. 1482 and 1557, particularly the latter, concerning International American steamship communication.

THORNWELL HAYNES, *Consul*

ROUEN, FRANCE, *December 17, 1904.*

AUTOMOBILES IN FRANCE.

(*From United States Consul Thackara, Havre, France.*)

ANNUAL OUTPUT.

The increased use of automobiles during the past few years has become so enormous that the manufacture of motor cars and their accessories has become one of the most important French industries. From a total of 1,850 automobiles in 1898, valued at \$1,602,000, the output in 1904, according to the Chambre Syndicate de l'Automobile de France, has grown to 22,000 cars, of an estimated value of \$34,000,000.

The yearly output of automobiles from 1898 to 1904 was as follows:

Number and value of automobiles manufactured in France, 1898 to 1904.

Year.	Number.	Value.	Year.	Number.	Value.
1898.....	1,850	\$1,602,000	1902.....	16,500	\$24,000,000
1899.....	1,900	1,833,500	1903.....	19,500	28,000,000
1900.....	5,000	5,307,500	1904 (estimated).....	22,000	34,000,000
1901.....	8,800	10,229,000			

According to statistics published by the minister of finance, the number of automobiles registered in France, and upon which taxes have been paid, since 1899 is as follows:

Number of automobiles registered in France, 1899 to 1903.

Year.	One or two places.	More than two places.
1899.....	946	725
1900.....	1,259	1,638
1901.....	2,493	2,893
1902.....	3,404	5,803
1903.....	5,546	14,340

It is estimated that by January 1, 1905, the number of cars registered will have reached nearly 30,000. In 1903, in addition to automobiles, there were registered 19,816 motor cycles and 1,300 bicycles. Taking \$1,400 as an average price for automobiles

for motorcycles, and \$35 for bicycles, on January 1, 1904, there were over \$75,000,000 invested in France in mechanically propelled vehicles.

The number of workmen employed in the automobile industry of France in 1904, according to the president of the automobile syndicate, is at least 55,000 skilled mechanics and 25,000 employees, clerks, etc., to which should be added about 20,000 chauffeurs, making a total of 100,000 persons who are directly identified with the industry.

IMPORTS AND EXPORTS.

The extraordinary growth of the French automobile trade is indicated in the following table, in which are given the values of the imports and exports of motor cars and motor cycles into and from France since 1898.

Imports into and exports from France of automobiles and motors, 1898 to 1904.

Year.	Imports.		Exports.	
	Automobiles.	Motor cycles.	Automobiles.	Motor cycles.
1898 ^a	\$76,249	.....	\$337,625	.....
1899 ^a	91,289	.....	821,987	.....
1900 ^a	99,781	.....	1,817,481	.....
1901	130,468	.....	3,046,926	\$32,231
1902	208,247	\$2,123	5,832,267	105,764
1903	298,746	2,702	9,822,156	112,326
1904 (10 months)	577,456	7,913	11,953,069	211,142

^a In 1898, 1899, and 1900 separate figures were not given in the official statistics for motor cycles; they were included under the classification of motor cycles, bicycles, and parts of same.

The values of the imports and exports show a progressive increase, especially those of the exports of automobiles, which, from \$337,600 in 1898, reached nearly \$12,000,000 during the first ten months of the present year. The values of the imports from the different countries during the first ten months of 1904 were: Germany, \$423,349; Belgium, \$40,144; Italy, \$34,161; Great Britain, \$25,283; Switzerland, \$18,721; United States, \$9,071; and other countries, \$26,827.

The destinations and values of French-made automobiles exported in 1902 were as follows: Great Britain, \$3,719,000; Italy, \$480,000; Belgium, \$397,000; Germany, \$349,000; Algeria, \$219,000; Tunis, \$82,000; Indo-China, \$19,300, and other countries, \$567,000. The customs statistics do not specify the exports to the United States, but the value of automobiles declared for export in the different American consulates in France during the calendar year 1902 was \$947,164.

The questions arise whether or not American motor-car manufacturers can supply the wants of their home market, thus reducing the imports of foreign-made cars, and if outlets can be found in France for the sale of American automobiles.

AMERICAN AND FRENCH AUTOMOBILES.

It is the universal opinion of the French manufacturers and dealers with whom I have corresponded and with whom I have had personal interviews that the competition of American automobiles with higher grade cars is, at this time, not greatly to be feared. They think that, although the American manufacturer with perfected automobile machinery and up-to-date shop methods can make the parts of an automobile cheaper than they can be turned out in any other country, the same care in assembling the parts is not taken in the United States as in France. They admit, however, that the Americans have shown great improvement in automobile construction during the past few years.

In the large French automobile manufactories, many of which are fitted with the most improved American machines, the cars are made in series. The parts are manufactured in quantities, but each car of the series is erected by a crew of skilled mechanics called "ajusteurs" who do most of their work by hand. It is estimated that 50 per cent of the labor expended in the construction of a higher grade French motor car is hand labor. This is, of course, expensive, but the French manufacturer claims that it is the only way of turning out reliable cars.

I am assured by several French dealers that there is a favorable opportunity in France for the sale of the light American cars, especially for their cheapness, durability, and efficiency would appeal to a large number of automobilists who can not afford to buy the more expensive cars.

HOW TO INTRODUCE TRADE INTO FRANCE.

I would strongly advise our manufacturers, who desire to export their products to this country, either to visit France themselves or to send capable representatives, to ascertain at first hand whether the conditions are favorable for opening a foreign trade. In Paris, which is the center of the French automobile world, useful knowledge can be readily obtained which may be the means of saving money and perhaps of avoiding future disappointment.

It is very doubtful if a satisfactory trade could be established by correspondence, by catalogues, or by photographs. Judicious advertising in the French and other trade journals will be necessary, but the quickest and best method of catching the French public is to win or to secure a good place in the road races, endurance and climbing tests, etc., which are constantly being held in this country.

A point to which our manufacturers should pay great attention is economy in consumption of fuel. In this country, where the average retail price of gasoline for use in motor cars is 7.72 cents per gallon (1.05 quarts), the amount of fuel a car consumes at an average speed is an important factor in making a sale. In European countries where automobiles are made the manufacturers have studied fuel economy as much as any other feature.

PRICES OF FRENCH AUTOMOBILES.

Concerning the prices of automobiles in the French market for the coming season, the automobile editor of one of the leading Paris journals writes me as follows:

The prices for the favorite French makes are about the same as last year, with one or two exceptions. Where prices have fallen the reason can generally be found in the fact that the makers have a stock of last year's models on their hands. From an intimate knowledge of the leading French makers and agencies, I can safely say that very keen competition is expected in the coming year, and, though there is at present no talk of serious reductions in prices being made, I am certain that toward the end of next season—that is to say, in October and November—many agents will have to reduce their terms in order to get rid of their stocks.

CUSTOMS DUTIES ON AUTOMOBILES.

The customs duties on automobiles imported into France directly from the United States are as follows: Sixty francs (\$11.58) per 100 kilograms (220.46 pounds) net for motor cars weighing 125 kilograms (275.5 pounds) or more; less than 125 kilograms, 150 francs (\$28.95) per 100 kilograms net. If the importation is made indirectly through a European port (Great Britain, for instance), the above duties are increased 3.60 francs (69.5 cents) per 100 kilograms.

AUTOMOBILE FREIGHT RATES TO FRANCE.

The rates of freight on automobiles by the steamers of the French line are as follows, per 40 cubic feet: From New York to Havre, by express steamers, \$8, plus 5 per cent; by cargo boats, \$4.50, plus 5 per cent; from New York to Paris, by express steamers, \$12, plus 5 per cent; by cargo boats, \$8.50, plus 5 per cent.

The cubic measurements of an automobile weighing, when boxed, 1,220 kilograms (2,690 pounds) is about 396 cubic feet; one weighing 1,750 kilos (3,858 pounds), about 490 cubic feet, and one weighing 2,270 kilos (5,004 pounds), 580 cubic feet.

LANDING AND CUSTOM-HOUSE CHARGES.

The following pro forma account shows the landing and custom-house charges at Havre on automobiles weighing 1,200 kilos net (2,645 pounds):

Item.	Charges.		Item.	Charges.	
	Francs.	Dollars.		Francs.	Dollars.
Landing charges	15.00	2.89	Receipt stamp	0.50	0.10
Customs stamp	1.20	.23	Unpacking	15.00	2.89
Customs permit .....	.70	.13	Brokerage	10.00	1.98
Customs duty (net weight, 1,200 kilograms, at 60 francs per 100 kilos.)	720.00	138.96	Delivery at garage	10.00	1.93
			Total	772.40	149.06

For automobiles weighing over 2,000 kilograms (4,409 pounds) derrick charges amounting to 42 francs (\$8.10) should be added to the above.

With their great sources of supply of raw material, their inexhaustible energy, their up-to-date and economical manufacturing methods, and their skilled operatives, there is no reason why American manufacturers should not secure a proper share of the world's trade in automobiles, motorcycles, and motor boats, which is bound to increase.

A. M. THACKARA, *Consul*

HAVRE, FRANCE, *December 22, 1904.*

TRADE DEMANDS IN CHINA.

(From United States Consul Anderson, Hongchow, China.)

A statement as to general trade of the United States in China which is general enough to be brief is likely to be too general to be useful. One or two rules may be followed, however. One is that the goods offered must be cheap if they are to be sold to the great mass of the people, and another is that they must be made to suit the peculiar requirements of Chinese life. It is also to be remembered that the introduction of an article into general use means an immense market. Where population is counted by the hundred millions, "general use" means something. At the same time there is room for a very considerable amount of goods which can not be regarded as actual necessities, and which in the United States would be regarded in the number of luxuries. The wealthy class are ready to buy almost anything which appeals to their fancy, and this class is greatly on the increase. The Chinese are not disposed to question whether goods come from the United States or Europe. They take what they believe to be the best goods for their use for the least money. It is difficult for them to discriminate at first between good grades of goods and those which are not so good, but their natural shrewdness and business acumen soon lead them to close discrimination. There is an increasing disposition to buy foreign goods. It is coming to be a fad with some of the usefulness of some foreign goods as compared with Chinese goods for the same purpose appeals to them.

The demand for American flour is increasing. This trade will soon be looked after in the near future. The construction of flour mills in north China means that China will soon endeavor to make its own flour. For years to come, however, the demand for American flour will probably increase.

The use of American cotton goods ought to be increasing, but Chinese goods are being used very largely because they are made to suit Chinese needs. The Chinese are using quantities of so-

"Turkish" bath toweling in small pieces. It is of cheap grade and is made by the Japanese for Chinese trade. They are also using increasing quantities of cheap cotton goods made in rough imitation of silk, for tunics. The cotton situation ought to be given special study by a cotton expert, but in general cheap grades of cotton goods suitable for Chinese shirts or tunics in shades of blue, rough toweling, knit underwear of cheap grades, hosiery, and cheap sateens will probably find ready sale at fair prices.

American shoes are coming into more general use among the Chinese in treaty ports, and the introduction of cheap grades of shoes here would probably be profitable. There is a strong demand for American shoes among the foreigners in China, and good grades at prices similar to those obtained for them in the United States will find very little competition up to the consumption limits.

The sale of American hardware ought to be greatly increased. The best stoves sold in China at the present time are from the United States, and they are generally recognized as the best. Most of these stoves, however, are far out of the reach of the average Chinese family. Cheap but convenient stoves would meet with prompt sale, and in all probability would lead to the building up of a very satisfactory trade in the future. Hardware novelties also have a future.

The increasing use of foreign-style furniture, mostly manufactured in the coast cities of China, is causing a demand for hardware fittings and trimmings. The Chinese for hundreds of years have manufactured their own cooking utensils and the like, but in the open ports they are turning to foreign goods, and it is now common to see a Chinaman with granite ware or porcelain-lined wash basins or similar vessels. They may be used indiscriminately for washing a face or a vegetable; but they are popular, and if put down in China at a low price their sale would be enormous.

The Chinese are also turning to small foreign novelties and notions, such as small hand mirrors, belt buckles, combs, hair brushes, beads of many varieties, and glass novelties generally. The goods of this sort they buy are cheap, and generally gaudy and poor.

Both the Chinese and Japanese are making lamps for sale in China. They are far from being the equal in any way of American high-grade lamps, but they meet the requirements of the Chinese market. I am of the opinion, however, that better lamps can be made for the same money in the United States and shipped here profitably. Lamp wicks already are imported in considerable quantities.

Very cheap grades of ribbons are in demand. In this line almost anything which will enable the Chinese woman to make a show of finery at a low price can be sold profitably.

I believe that there will be a strong demand for medium-power gasoline and oil engines when once a reasonable effort is made to intro-

duce them. The demand for power of all kinds is certain to increase as foreign methods of manufacture are more generally adopted, they are every day.

There is a demand among the foreign population in China for medium to good grades of pictures for wall decorations, and cheap but artistic creations now so common in the United States would find their way into a good many Chinese homes.

There is a splendid field here at the present time for pumps of many grades and for well-boring machinery. This demand is urgent, and would assume immense proportions if given an impetus from the United States.

The purchasing power of the Chinese people is increasing rapidly and as it increases there will be no limit to the field for American trade in almost every line. For the present all goods sent to China except for the foreign population, must be of the cheapest grade. The people can buy no other. Freight rates can best be secured from Chicago, New York, or San Francisco, according to the field served. The transcontinental lines have steamship connections and make through rate contracts. The rates are constantly varying. Transportation in China is mostly by canal and is cheap.

GEORGE E. ANDERSON, *Consul*

HANGCHAU, CHINA, *November 17, 1904.*

CANADIAN "DUMPING ACT."

(From *United States Consul Worman, Three Rivers, Quebec.*)

The American papers abound in inquiries from manufacturers and exporters as to the new tariff law, generally known as the "dumping act," which went into effect in the Dominion October 1, 1904. None of the explanations in the daily press cover the ground as satisfactorily as does the report of United States Consul Charles A. McCullough of St. Stephen, New Brunswick, in the *Daily Consular Reports* for September 30, 1904 (No. 2069). He submits entire the circular issued by the customs department at Ottawa, August 22, 1904, for the information of exporters to Canada.

The interpretation of the instructions are already the cause of much disagreement among the Canadian customs authorities; but the fact remains that "a special customs duty" is imposed upon dutiable goods sold for Canadian consumption at less than the market price in the country of production, and that the object of the new customs law is to levy a special duty equal to the amount of the cut in price, up to one-half of the customs duty otherwise levied. On pig iron, iron or steel ingots, rolled iron or steel angles, rolled iron or steel plates

etc., this special customs duty is, however, limited to 15 per cent ad valorem.

A report on the changes in the Canadian tariff in the Daily Consular Reports, of June 27, 1904 (No. 1989) by Consul-General Foster, of Ottawa, foreshadows the appointment of a commission for an entire change of the Canadian tariff. He says:

The minister of finance expressed the opinion that before the government should attempt to deal with all the details of a general revision of the tariff it would be desirable to have a commission make a full investigation and report upon the subject, and that the revision when made should proceed upon the lines of establishing separate tariffs to deal with different countries. For those countries maintaining a high tariff toward Canada there would be a maximum tariff, for low-tariff countries a minimum or ordinary tariff, and for Great Britain and her reciprocating colonies the preferential tariff.

A year ago the Canadian Manufacturers' Association, a body of Canadians most influential in the politics of the Dominion, and sure to have a voice in its tariff changes, laid down as part of their platform:

In order that capital and labor in Canada may be properly protected from the specialized and heavily protected industries of foreign countries which use the Canadian market as their dumping ground, * * * the association believes that it will be in the true interest of every citizen of the Dominion to revise the tariff, so as to extend to every Canadian industry—mining, fisheries, agriculture, and manufacturing—the same efficient protection against foreign competition.

There has been no change in sentiment since. At a meeting recently held by this association, which represents hundreds of millions of dollars of invested capital, and therefore voices the sentiment of Canada's commercial interests, the same principles were advocated with even greater emphasis. The government was commended for the new tariff measures of 1904, and the presiding officer of the association took occasion to point out how admirably the new "dumping clause" was working, and how it had recently been applied to a purchase of steel rails by the Canadian Pacific Railroad, by which the importer had to pay on 60,000 tons of steel rails the regular duty of \$420,000 plus an extra duty of \$210,000.

"Dumping of exports" is by no means confined to Canada. It has for some time prevailed in many parts of the world; but it has been extremely difficult to determine exactly where and how far the practice prevails. It is, however, an open secret that German and English manufacturers practice dumping to a considerable extent.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *December 20, 1904.*

TRADE OF ITALY.

(From United States Consul Brush, Milan, Italy.)

EXPORTS.

The principal exports of Italy are raw silk and silk goods, wine, olive oil, fruit and vegetables, butter and cheese, poultry and game and other agricultural produce. It has a large export trade in manufactures, about 30 per cent thereof going to the United States, to which it sends about 4,500 tons of sumac annually.

IMPORTS.

The item of coal does not appear in the tables of imports, but is true of many other less important items. The annual value of imports amounts to \$33,000,000, which represents approximately 5,500,000 tons, of which more than 5,000,000 tons come from England. The United States furnishes a part of the remainder, but is beaten by Austria, Germany, and France.

The United States shares with Russia the supply of mineral oils, the value of the imports being about \$3,000,000 yearly.

The imports of raw cotton are very considerable. In the year 1903 they amounted to 147,357 tons, of which the United States contributed 105,711 tons, the remainder coming from British India and Egypt. Italy also imports great quantities of timber for building purposes. The latest published returns show that this particular import has increased to something like \$12,000,000 per year.

Statistics as to quantities of silk cocoons raised in the year 1903 have not yet been published, but it is anticipated that a large increase over the year's results will be noted.

Quantities of cocoons raised during the years 1893 to 1903 and the average quantities of the nine preceding decades.

Year.	Tons.	Decade.
1893.....	473,940	1885-1894.....
1894.....	436,530	1886-1895.....
1895.....	420,740	1887-1896.....
1896.....	411,820	1888-1897.....
1897.....	367,260	1889-1898.....
1898.....	396,120	1890-1899.....
1899.....	415,870	1891-1900.....
1900.....	427,160	1892-1901.....
1901.....	403,300	1893-1902.....
1902.....	419,350	
1903.....	341,670	

In the following tables of imports and exports for the first six months of 1903 and 1904 the increases and decreases may be seen at a glance:

Value of imports into Italy for the first six months of 1903 and 1904.

Articles.	1903.	1904.	Increase and decrease.
	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>
Spirits, beverages, oils, etc	5,331,449	4,420,516	- 910,933
Groceries, drugs, and tobacco	3,277,019	3,221,121	- 55,898
Chemicals, medicines, resins, and perfumes	8,660,271	9,311,153	+ 650,882
Colors and dyes	3,052,993	3,203,401	+ 150,408
Hemp, flax, jute, etc	3,406,565	3,879,141	+ 472,585
Cotton	25,595,005	26,306,778	+ 711,773
Wool, fur, hair.	11,123,365	11,224,493	+ 100,928
Silk	19,143,596	16,600,942	- 2,542,753
Wood and straw	7,560,849	8,694,311	+ 1,133,462
Paper and books	2,468,272	2,981,382	+ 513,110
Hides	5,671,028	7,171,916	+ 1,500,888
Minerals and metals, worked and unworked	22,623,892	28,648,129	+ 6,024,237
Stone, earth, pottery, glass, and crystal	18,192,341	20,044,428	+ 1,852,087
Cereals, flour, and vegetable products not included in other returns	35,635,789	23,135,949	-12,499,840
Animals and animal products	10,968,249	13,348,886	+ 2,380,597
Precious metals	7,591,780	2,511,880	- 5,079,900
Sundries	2,982,986	3,172,925	+ 189,939
Total	193,285,640	187,877,451	- 5,408,189

Value of exports from Italy during the first six months of 1903 and 1904.

Articles.	1903.	1904.	Increase and decrease.
	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>
Spirits, beverages, oils, etc	12,956,155	11,861,354	-1,094,801
Groceries, drugs, and tobacco	837,327	877,223	+ 39,896
Chemicals, medicines, resins, and perfumes	5,113,862	5,870,976	+ 757,114
Colors and dyes	229,317	869,198	+ 640,181
Hemp, flax, jute, etc	5,319,446	7,979,232	+2,659,787
Cotton	7,287,115	8,922,547	+1,635,432
Wool, fur, and hair	2,010,949	2,100,111	+ 89,162
Silk	56,903,010	48,915,078	-7,987,932
Wood and straw	5,795,678	5,450,922	- 345,656
Paper and books	1,489,507	1,603,882	+ 114,315
Hides	3,465,461	3,537,796	+ 72,335
Minerals and metals, worked and unworked	3,596,194	4,031,131	+ 435,237
Stone, earth, pottery, glass, and crystal	9,702,339	10,018,324	+ 316,485
Cereals, flour, paste, and vegetable products not included in other returns	13,578,692	14,969,799	+1,391,107
Animals and animal products	17,293,652	16,432,011	- 861,641
Precious metals	585,120	811,940	+ 226,220
Sundries	2,909,341	3,148,511	+ 239,170
Total	149,073,224	147,399,635	-1,673,589

HARLAN W. BRUSH, *Consul.*MILAN, ITALY, *December 20, 1904.**Trade of the United States with Italy, 1865 to 1904.^a*

Year ended June 30—	Imports from Italy.	Exports to Italy.	Year ended June 30—	Imports from Italy.	Exports to Italy.
	<i>Dollars.</i>	<i>Dollars.</i>		<i>Dollars.</i>	<i>Dollars.</i>
1865.....	2,177,728	0,109,095	1885.....	14,192,908	11,974,417
1866.....	4,145,772	4,983,598	1886.....	16,870,636	13,373,424
1867.....	5,288,987	4,960,280	1887.....	19,387,808	12,171,604
1868.....	4,509,333	5,458,494	1888.....	18,401,688	12,751,569
1869.....	6,209,363	5,706,175	1889.....	17,992,149	12,604,848
1870.....	6,641,666	6,474,653	1890.....	20,330,061	13,068,096
1871.....	7,443,512	6,159,225	1891.....	21,678,208	16,046,992
1872.....	7,592,191	5,452,186	1892.....	22,161,617	14,317,725
1873.....	7,974,482	7,295,649	1893.....	26,250,241	13,019,539
1874.....	8,499,944	8,382,685	1894.....	18,006,075	13,910,620
1875.....	9,190,182	7,228,069	1895.....	20,851,761	16,363,125
1876.....	7,628,362	7,787,475	1896.....	22,142,487	19,143,608
1877.....	7,105,230	8,484,668	1897.....	19,067,352	21,502,423
1878.....	6,711,006	8,741,100	1898.....	20,332,637	23,290,858
1879.....	7,884,327	8,658,233	1899.....	24,832,746	26,034,940
1880.....	10,317,086	12,352,642	1900.....	27,924,176	33,256,620
1881.....	11,643,987	9,018,875	1901.....	24,618,384	34,473,189
1882.....	12,114,211	9,076,297	1902.....	30,554,931	31,388,135
1883.....	11,909,558	10,313,558	1903.....	36,246,412	35,032,680
1884.....	16,706,357	8,071,030	1904.....	33,558,042	35,720,001

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

FOREIGN TRADE OF THE UNITED KINGDOM

The following summary of the foreign trade of the United Kingdom for the month of November, 1904, with comparisons for the month of 1903, together with the value of the trade for the eleven months of both years, as given in the London Globe of December 7, has been transmitted, under date of December 8, by the United States Consul-General H. Clay Evans, of London. The values have been reduced to American currency in the Bureau of Statistics, Department of Commerce and Labor:

ANOTHER RECORD MONTH.

The board of trade returns for the month of November were received this afternoon, and they show that our foreign trade on the whole was exceptionally good. The imports were valued at £50,670,846 (\$246,589,672), an increase of £1,947,255 (\$9,476,316) over the preceding November; and the exports were valued at £26,113,288 (\$127,316), an increase of £3,075,495 (\$14,966,896). These figures record the greatest volume of foreign trade ever done by this country in the month of November. Some increase over the preceding November was expected, for in the present November there were only four Sundays as against five in the corresponding month of last year, but the increase in both the imports and the exports is more than is accounted for by an extra working day. Our readers may see at a glance how the trade of last month compares with that of previous Novembers from the following figures:

Values of British imports and exports for November of each year from 1898 to 1904

Month.	Imports.		Exports.	
	British currency.	American equivalent.	British currency.	American equivalent.
	£	Dollars.	£	Dollars.
November, 1898	42,068,814	204,727,883	19,820,207	97,820,207
1899	44,244,811	215,317,373	24,571,940	122,871,940
1900	49,733,730	242,029,196	24,624,649	123,124,649
1901	46,810,553	227,863,556	22,842,436	114,422,436
1902	45,118,056	219,567,020	24,648,238	123,248,238
1903	48,723,591	237,113,355	23,087,793	115,437,793
1904	50,670,846	246,589,672	26,113,288	127,316,288

In the imports the changes in trade as compared with the preceding November were remarkable. The imports of grain and flour accounted for a decrease of a million sterling (\$4,866,500). The total quantity imported was 18,640,840 hundredweight, as compared with 22,840,840 hundredweight in November, 1903, while the value was £6,244,811 (\$30,187,834), as compared with £7,226,267 (\$35,166,628). But the value turned the scale. The total of sugar imported was 3,241,310 hundredweight, valued at £2,195,575 (\$10,684,765), as compared with 1,841,310 hundredweight in November, 1903, valued at £954,621 (\$4,644,621). The increase in quantity was 1,355,352 hundredweight, while the

increase in value was £1,240,954 (\$6,039,103). It is noteworthy that the imports of sugar in November, 1902, and November, 1903, were almost equal in quantity to the home consumption, while the imports last month were about 600,000 hundredweight in excess of the home consumption. The increase in the quantity imported was 72 per cent, while the increase in value was 130 per cent. Tea showed a very different account; in the imports the increase was 3,000,000 pounds, while the value was £8,000 (\$38,932) less. The next article that calls for attention is raw cotton. This only swells the value of the imports by £559,761 (\$2,724,076). The quantity imported was 2,557,986 hundredweight, valued at £7,591,996 (\$36,946,448), as compared with 2,446,791 hundredweight, valued at £7,040,867 (\$34,264,379), in November, 1903. On the other hand, timber showed a diminution of £427,656 (\$2,081,187). Both quantities and values were less than in November, 1903, but were nearly the same as in November, 1902. Wool showed an increase of £160,822 (\$782,640). Miscellaneous metals and manufactures thereof, chiefly copper and tin, showed an increase of £408,776 (\$1,989,308), and oil seeds, nuts, etc., an increase of £330,062 (\$1,606,247).

In the exports the increase mostly occurred in textiles. In unmanufactured wool there was an increase of £146,518 (\$713,030) and in manufactured wool an increase of £405,297 (\$1,972,377), while in cotton manufactures the increase was £1,505,171 (\$7,324,915), Turkey, China, and Egypt taking the largest increases. New ships showed an increase of £171,973 (\$836,906), and machinery an increase of £106,154 (\$516,598); while iron and steel manufactures showed a decrease of £45,592 (\$221,873), and coal a decrease of £36,359 (\$176,941). The decrease in iron mostly occurred in pig iron; but for the eleven months of this year the decrease in pig iron was fully a million sterling as compared with the corresponding period of last year.

For the eleven months of this year there was an increase in imports of £7,920,574 (\$38,345,473), and in exports of £6,467,985 (\$31,476,448). The progress of our foreign trade as a whole can best be seen in the following figures:

Values of British imports and exports for the first eleven months of each year from 1898 to 1904.

Eleven months ended November 30—	Imports.		Exports.	
	British currency.	American equivalent.	British currency.	American equivalent.
	£	Dollars.	£	Dollars.
1898.....	425,283,431	2,069,641,816	212,412,384	1,033,704,867
1899.....	444,339,264	2,162,377,027	242,622,158	1,180,720,732
1900.....	477,275,947	2,322,663,395	267,839,334	1,303,410,118
1901.....	475,506,540	2,314,052,577	255,969,112	1,245,673,683
1902.....	480,782,264	2,339,629,557	259,283,740	1,261,804,320
1903.....	490,603,123	2,387,520,097	266,277,778	1,295,840,806
1904.....	498,523,697	2,426,165,570	272,745,763	1,327,317,255

PREFERENTIAL TRADE BETWEEN AUSTRALIA GREAT BRITAIN.

United States Consul John P. Bray, at Melbourne, Australia, dispatch dated November 19, 1904, reports that the predominant sentiment in Australia is undoubtedly in favor of giving preference to English imports. He incloses clippings from *The Age*, a newspaper of Melbourne, describing a large public meeting held in the Melbourne Trade Hall, November 17, at which two of the principal speakers were former prime ministers of the Commonwealth of Australia—Deakin and J. C. Watson.

Among the arguments in favor of a tariff preference in favor of England brought out at this meeting was the one that to the producers of Australia the proposed preference was a question of material gain rather than mere sentiment, even of material gain. If by its adoption wheat, meat, wine, and fruit of Australia can get the first pick of the world's great market, why should it rather be preferred to give to a foreigner an equal opportunity in all markets? The principal objection developed at the meeting was not so much to the program of preference in itself as to the people and party back of it in England.

It was not proposed to abandon the policy of protection in Australia by any means. As one speaker put it, they would give the preference to themselves, but they were just as ready to give to Great Britain a preference over the foreigner. The phrase was: "Give preference to the workers on the Yarra before the workers on the Thames, but the workers on the Thames before the workers on the Rhine." It was held that the maintenance of the protective policy is wholly consistent with reciprocity within the Empire which should make it independent of trade, and "self-supporting under one flag."

The methods of preference were not discussed in great detail. It was said that of the £38,000,000 (\$184,927,000) total imports £12,000,000 (\$58,398,000) worth were admitted free of duty; or, omitting stimulus, nearly half the imports. The imports from Great Britain are declining, and those from foreign countries are increasing, and to combat this tendency it was considered better to increase the duties on goods from other countries while maintaining them at about the present level on goods from the United Kingdom. New Zealand, Canada, and South Africa had preferential tariff arrangements without losing any of their legislative autonomy, so the fear of loss of any part of their independence was held to be groundless.

The sentiment of the meeting was expressed in the adoption of the following resolution: "That this meeting cordially approves of preferential trade relations between the mother country and Australia, and is at all times due regard to the industries of the Commonwealth."

MUNICIPAL OWNERSHIP PROJECTS IN CANADA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The Labor Gazette for December says:

The extent to which the subject of municipal ownership has been discussed in Canada, more particularly in view of the approaching municipal elections, was a notable feature during November. The municipalization of the railway systems of Toronto and Ottawa was proposed, an offer of the stock being made by the company in the latter to the city council for \$2,500,000. The purchase of the Hamilton street railway by the municipality was also proposed. In connection with gas and lighting plants the city council of Westmount, Montreal, decided in favor of taking over and operating the local electric-lighting plant, and the question will be presented to the ratepayers in December. Final arrangements were made for the purchase of gas stock to the amount of \$1,000,000 by the municipality of Toronto, as sanctioned by the ratepayers. The municipality of Calgary has decided to invest \$60,000 in a lighting plant. In connection with the negotiations at St. Thomas, Ontario, for the purchase by the municipality of the plant of the local gas and electric light company, the experts engaged in valuing the plant came to a decision in November, the sum named being \$196,366. The agreement with regard to the purchase of the plant will be submitted to the ratepayers for sanction in January. Recent reports from the city of Kingston show that municipal ownership of the electric-lighting plant is meeting with financial success. The establishment of a municipal telephone system was discussed at Whitby, Ontario, which is now supplied with a system of waterworks, light, and power.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *December 29, 1904.*

BUSINESS OPPORTUNITIES ABROAD.

(From United States Consul-General Guenther, Frankfort, Germany.)

The following notes concerning business opportunities abroad are derived from various German sources:

RAILROADS.

Chile.—Government concessions have been granted for the construction of the following lines of railway: From Paloma to San Marcos; from Caleta de Pan de Azucar to Mina Esplodadora, and from Patillos to the borax fields in the Cordillera de Silillica.

Mexico.—A concession has been granted to build a line of railway from Guaymas to Toniche.

Switzerland.—A narrow-gauge steam railroad line is to be built between Samaden and Pontresina.

Transvaal.—A concession has been secured from the government for a steam railway from Springs to Wiltank.

ELECTRICAL APPARATUS AND RAILWAYS.

Austria-Hungary.—The municipalities of Gleisdorf, Steyer Austria, and of Kastelruth, Tyrol, Austria, have decided to install electric lighting and power stations.

Guatemala.—The tramway lines in the city of Guatemala are operated by electric traction. For detailed information apply to Director Ricardo Echeverria, Guatemala City.

Switzerland.—Three electric cable tramways are to be built in the city of Berne.

An electric railway line is to be constructed which is to run from Aigle to Sepey, Leysin, and Feydey in Switzerland. For particulars address the Aigle-Ollon Monthey Railway Company in Aigle.

MISCELLANEOUS.

Belgium.—Proposals for the building of an iron viaduct between Anvers-Gare central boom will be received at the Bourse, Brussels, Belgium. Estimated cost, about \$35,000.

Germany.—Berlin consumes for municipal purposes (gas for heating public buildings, etc.) from 250,000 to 300,000 metric tons (2,204.6 pounds each) of coal per year, which heretofore has been supplied by the mines in Lower Silesia. The syndicate, however, controlling these mines has raised the price of coal so high that the authorities of the city will draw its coal supplies for 1905 from abroad. Berlin papers report that the municipality has already concluded contracts for English coal. It is estimated that these coal purchases of the city will send \$1,250,000 to \$1,500,000 per year to England. Perhaps some of our American coal companies might find it profitable while to figure whether American coal could be sold to Berlin or other parts of Germany.

Roumania.—The German consul in Bukharest reports that the abundant grain crop of 1904 in Roumania has caused an increase of 25 per cent in the purchase of agricultural machines there as compared with the year before. Austro-Hungarian and English machine manufacturers have outsold those of other countries on account of the credit terms allowed the purchaser.

Russia.—The League of Agricultural Associations of Poland organized a central bureau in Warsaw, which is to purchase all agricultural machines, and supplies needed by these associations. Some agricultural societies of the provinces of Volhynia and Podolia have joined this league. American manufacturers may do well by establishing a business connection with the new bureau in Warsaw.

RICHARD GUENTHER, *Consul-General*

FRANKFORT, GERMANY, December 30, 1904.

MANUFACTURE OF NUT AND SEED OILS IN GERMANY.

(From United States Consul-General Pilcatrn, Hamburg, Germany.)

PALM OIL.

The manufacture of oil from palm kernels is effected both by pressure and by extraction, while from cocoanuts, linseed, and rapeseed, oil is manufactured by pressure alone. Palm-kernel oil is manufactured chiefly from the seed albumen of the oil palm, which grows in West Africa, and the process by pressure is as follows: The fruit having been removed from the outer fleshy skin, from which the natives of Africa manufacture palm oil by boiling, the kernel is separated from the hard shell still surrounding it. The percentage of oil in this kernel is 49 to 52. The kernels are cleaned by screening the dust, stones, etc., and placed in the machine for first crushing, which plays an important rôle in the pressure process. In order to obtain a favorable output of oil, it is absolutely necessary to crush the kernels as small as possible. The grinding is done by rolling mills with two pairs of fluted rollers, supplied with rough and fine fluting and fixed one above the other, which crush the kernels into pieces the size of peas. The mills are supplied by an automatically adjustable seed filler and the whole apparatus and gearing is adjusted into a firm cast-iron structure. The grist, after the first crushing, is filled for final grinding into so-called five-roll presses, from which, if properly fed, a very fine meal is secured. The five-roll press consists of five smooth rolls, built one above another. The grist is first filled into a distributing apparatus, by which the quantity may be properly regulated, and then passes through the five rolls in a zigzag way, and is thus ground four times under steadily increasing pressure. The most of the German factories have the grist pass again through this press until thoroughly pulverized. The rolls press upon each other by their own weight, and besides can be tightened as desired by means of springs. The motion of the rolls is effected by a belting contrivance, in such manner that the uppermost, the central, and the lowest rolls, the diameters of which are a little larger than those of the other rolls, are driven by belts, while the two other rolls are propelled by friction.

After the grinding the mass is filled into large double-shelled boilers, the so-called warming pans, which warm the crushed grist so that the oil may be extracted better in the pressing process. Having attained a certain temperature, the grist is pressed in so-called box pressés. The time of pressure, including filling, varies between forty and fifty minutes. The remaining oil cakes, which still contain about 5 per cent of oil, are used as cattle feed. These cakes are sold either in their original form as taken from the presses after the edges, which contain

a comparatively high percentage of oil, are cut off, or the cake crushed first in a cake crusher and finally ground to meal in a roller.

LINSEED OIL.

In manufacturing linseed oil the seed is cleaned and filled into a roll press. After passing through the press once the seed is sufficiently fine and dissolved to be in proper condition for pressure. The ground seed is then filled into large warming pans, connected with a stirring contrivance, in which the grist is warmed and moistened. The presses are of the Anglo-American system, arranged for a large number of cakes, usually seventeen, in which the grist after being warmed is wrapped in cloths. Before being placed in the press, however, it is first put under slight pressure, but so as not to express oil. The time of pressure varies between thirty-five and forty minutes, including the time of filling the presses. Subsequently, the cakes, which still contain about 5 to 8 per cent of oil, are taken out and the cloths removed. The edges, which contain considerably more oil than the body of the cakes, are cut off, and the cakes are either sold in pieces or first ground to meal.

RAPE SEED OIL.

Rape seed is treated almost exactly like linseed. The grist, however, is first cold-pressed in straining presses, by which process a large percentage of its oil is expressed. The cakes thus formed are crushed and ground to meal in a chat roller before being filled into the warming pans, from which it is transferred to the Anglo-American presses. The process of manufacture of cocoanut oil is very similar to that of rape seed oil.

The method of extracting and of refining oil is generally a business secret with all the factories.

I transmit herewith a catalogue^a of the firm of H. Eddelbüttel & Co., Harburg on Elbe, which installed the machinery in almost all oil factories in the vicinity of Hamburg.

PRICES OF SEEDS, NUTS, AND OILS IN HAMBURG.

Indian rape seed and oils, per ton: Rape seed, \$39.03; raw oil (in barrels), \$97.58; refined oil, \$103.38.

Copra and copra oil: Copra, per metric ton, \$11.90; Ceylon cocoanut oil, per 220 pounds, \$13.92; Cochin cocoanut oil, per 220 pounds, \$12.97.

Palm oil and kernels, per 220 pounds: Palm oil, Lagos, \$11.42; palm oil, Accra, \$11.42; palm kernels, \$7.47; palm-kernel oil, \$11.42.

According to the annual import and export statistics issued by the local statistical bureau, the average declared value of the commodities

^aOn file in the Bureau of Statistics, where it may be consulted by persons interested.

named, per 100 kilos (220 pounds), during the last four years was as follows:

Average declared value of nut and seed oil per 100 kilos (220 pounds) at Hamburg, Germany, 1900, 1901, 1902, and 1903.

Commodity.	1900.	1901.	1902.	1903.
Copra	\$7.70	\$7.62	\$9.40	\$7.70
Palm kernels	5.24	5.24	6.19	5.47
Rape seed, German	5.00	5.95	5.24	5.47
Rape seed, foreign	5.00	5.24	5.24	5.00
Cocunut oil	14.04	15.11	16.90	15.35
Palm-kernel oil	11.66	11.20	12.00	12.00
Rape seed oil, German	15.00	15.23	14.76	13.83
Rape seed oil, foreign	12.85	13.00	12.38	11.19
Oil cakes	2.74	2.74	3.02	2.89

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *December 6, 1904.*

COMMERCIAL EDUCATION IN ENGLAND.

(From United States Consul Halstead, Birmingham, England.)

The association of chambers of commerce of the United Kingdom recently sent a deputation to Lord Londonderry, president of the board of education, to try to secure from the Government increased aid for higher technical and commercial education. The following account of the hearing is condensed from the report in the London Times of December 13, 1904:

The following resolution, which was passed at the autumnal meeting of the association at Manchester on September 28, was laid before Lord Londonderry: "That, in order to retain our industrial position and to introduce into this country such further industries as may be profitably developed, this association is of opinion that it is absolutely necessary to establish or acquire public secondary schools of the highest standard, where efficient means of such education do not exist, with fees low enough to make them accessible to all grades, and to provide sufficient inducements by bursaries, exhibitions, scholarships, or otherwise to make the efficient boys stay long enough in these schools in order thoroughly to train and adequately prepare a very much larger number than is at present available for taking full advantage of the provisions made for higher technical and higher commercial education, the facilities for which ought also to be largely extended and the standard considerably raised."

The various speakers, in presenting the resolution, advanced the following arguments:

It was upon business men that the brunt of foreign competition largely fell, and therefore the chambers of commerce were likely to know where the shoe pinched and where we were being left behind by our competitors abroad. Their object was to secure the development of technical and commercial education. They did not mean by

commercial education that commerce should be taught in our schools which would be impossible, but they did mean that in the broader ranges of instruction, at any rate, there should be a greater addition of our education to the needs and requirements of commercial life.

It was impossible, in the present circumstances of our education, to raise the standard of higher technical or higher commercial education. The Manchester Technical School cost £40,000 (\$194,660). It was perfectly equipped and had a first-class staff of teachers, and it had got only 200 students, who scrambled through an examination much easier than any examination any student would have to pass on the Continent. The want of secondary education was the cause of our most deplorable position. What we wanted, in the first instance, was a far larger number of high-class public secondary schools. They must have ways and means of keeping the students in these schools when they had got them. They must find sufficient money for salaries and scholarships to purchase the parents and the boys, and it meant more money than the local authorities could find. We must be prepared to face a great financial sacrifice, for some years at any rate, if we were to put secondary education in this country on anything like the level it has reached in America, Switzerland, and Germany.

They did not ask the Government to acquire or extend schools which seemed necessary in some cities, but they did ask them to give encouragement to existing schools and colleges by approving of a wider course of study. They asked, above all, that the larger grant of public money which they sought should be given in such a way as to raise the standard of excellence by the awarding of prizes and bursaries such as were already available for science.

The Government should recognize commercial education as part of the parcel of the educational system of the country, and there should be more elasticity in the regulations of the board of education for the special schools which had been recently established in one or two of the large towns inspected by the officers of the department, and which were now pronounced efficient.

Lord Londonderry in reply said that he proposed to devote a greater part of his speech rather to the question of commercial education than to that of technical education. A sound secondary education must be the basis for a sound technical or commercial education. If their aims were to be realized, such an education was absolutely indispensable. But the privilege of establishing public secondary schools in the various districts did not rest with the board of education. It was the duty of local authorities to acquire or establish such schools, and if the aim of the deputation was to be achieved it was their duty to bring such pressure to bear upon their county councils, and especially upon the education committees of the county councils, as to induce them to take this matter in hand and deal with it.

The department's regulations gave all necessary encouragement to the acquisition or establishment of such schools. There were now schools now recognized by the board that were not recognized before, and the recent increase in these schools was due partly, they believed, to the fact that different types were now recognized by the board. Making all the deductions necessary, they still had a substantial gain during recent years—a gain in quality where it is not a gain in

tity. They had now working 580 secondary schools under the board, compared with 500 last year, 418 in the previous year, and 358 in the year before that.

The board had power to sanction schools with tuition fees as low as £3 (\$14.60) per annum. He could not think the present fees could embarrass the industrial interests and the classes of the community which the deputation represented. At the same time the earnest desire of the board of education was to give a career to exceptional talent, no matter in what class of the community or in what social status it may be found. But they had also to consider whether they were justified in spending public money in scholarships and bursaries where they had reason to believe that higher education would be wasted. The proportion of free places to paying places was so large and the proposals of local authorities as to bursaries and scholarships were so generous that they had to fear the danger of collecting poor boys of no more than average ability, who would be unable to profit for more than one or two years by prolonged education, even more than the danger that exceptional talent in any grade of life would fail for lack of opportunity.

As to the last part of the resolution, which declared that the facilities for higher technical and higher commercial education ought to be largely extended and the standard considerably raised, he would confine what he had to say further to the question of higher commercial education, which was of perhaps more recent importance than the question of higher technical education. He was not quite certain whether the possibilities for giving such education within the purview of our existing educational system had yet been adequately developed. Advanced classes in modern languages, in mercantile practice, in mercantile law, in economics, or in special branches of these main subjects might be formed under existing regulations, as well as classes in matters of a more rudimentary character appertaining to commerce, such as office routine, bookkeeping, and practice. It rested with those he saw before him to create the demand for such instruction for their employees or for their own sons, and to bring their influence to bear on the local authorities in order that facilities within the existing regulations might be largely extended.

The regulations, without any extension, provided amply for the introduction of commercial instruction of a superior type. He need not quote any further instance of this than the work carried on by the London Chamber of Commerce, and now continued during the current session at the City of London College, where advanced instruction was given in commercial and industrial law, commercial history and geography, banking and currency, methods and machinery of business, with special reference to insurance, shipping, the stock exchange and foreign exchanges, political economy and accountancy, together with French, German, Italian, Spanish, Russian, and Dutch. The resolution laid special stress upon the necessity of improving the standard of such instruction. He thought he was justified in replying to that that there was room for a considerable improvement in standard before the possibilities of the present regulations were exhausted.

It was claimed that the grant now made for commercial as compared with science subjects was inadequate, and quotations had been made of rates which at first appeared to support that contention. But those who made the comparison did not take into account the fact that the

teaching of commercial practice and cognate subjects or of languages did not require the laboratory accommodation and appliances which were requisite for giving instruction in pure or applied science. He would point out, further, that the maximum grant for commercial subjects was now accorded for all work which could really claim to be advanced, whereas the grant for science subjects only in very exceptional cases reached the maximum figure. At the same time when the general level of the commercial instruction has risen they ought to consider whether the maximum rate grants now payable ought not to be further increased as an inducement to a still further enlargement of the scope of the instruction. Already in a few specially organized schools commercial instruction was given on a plane which involved a local expenditure on a more liberal scale than that contemplated by the existing rates of grant were fixed. It was, however, a question of how far the powers of expenditure of the local education authorities were sufficient to meet such special cases as arose in cities where the organization of commerce was very highly developed. The matter was one to which the board were fully alive, and he was anxious to learn that the chambers of commerce appreciated the value of special advanced instruction in the several sections of mercantile education which the board had felt it their duty to encourage in the schools serving the more important commercial communities.

Sir W. Anson said it was a question of scholarships versus bursaries, and his voice was given for the schools; and he hoped that the authorities would do all they could to promote the existence of scholarships and bursaries.

Lord Brassey said that with a grant of £30,000 (\$144,995) a year was a small sum in comparison with the aggregate expenditure upon education, and an insignificant sum in comparison with the value of the foreign trade—they might give bursaries to the value of £30 (\$146) a year to 1,000 of the most promising students of the secondary schools. It would be a great encouragement to the boys to remain in the schools for one year longer.

MARSHAL HALSTEAD, *Comptroller*.

BIRMINGHAM, ENGLAND, *December 15, 1904.*

FRENCH NATIONAL SAVINGS BANK.

(From United States Consul Haynes, Rouen, France.)

National savings are a certain indication of a country's confidence in its government, not only economically but also financially, as they testify more to the people's faith in their government. In this respect as well as in others the French national savings bank presents an interesting example.

This institution began operations January 1, 1882. Its object was not only to offer the usual facilities, but to grant greater ones to savers by cooperating with suburban and provincial post-offices. In other words, a simple postal savings bank, known as the "Caisse Nationale d'Épargne" of France. Deposits, upon which a certain

of interest is paid, can be made at any money-order bureau, where depositors are provided with a book in which each deposit is entered, attested by the receiving officer and dated with his stamp. The depositor is entitled to all or any part of his money by simple demand at any money-order office. The franchise of the institution provides that a certain per cent of its capital be invested in Government securities, thus assuring depositors of its unqualified stability.

At the end of the first year after its establishment there were registered 211,580 depositors, a number which on December 31, 1903, had swelled to 4,143,888, without any one year showing a decrease. This means that at present one out of every ten of France's 39,000,000 inhabitants has something in the savings bank. The amount deposited at the end of the first year, December 31, 1882, was \$9,187,116, which at the end of 1903 had grown to \$215,766,294. These figures show that within twenty-two years the national savings bank has received one-third as much money as the private banks of this nature, and that the number of present depositors is one-half of that of those depositing in the private institutions.

While it seems natural that the number of deposits should each year increase in an identical proportion, it is true that during 1882 there were 473,155 deposits made, representing \$12,352,000, and during last year 3,445,147 deposits, amounting to \$83,762,000. In spite of such an increase it will be seen, when the number of depositors of the first year is compared with that in 1903, that the average of each deposit was necessarily less last year than in 1882, being \$24.52 and \$26.25, respectively. This lessening of the deposit is due to many causes, the principal one of which was the law of 1895, which reduced the maximum of any deposit from \$386 to \$289.50 and suspended during the same year all deposits over the latter sum. It is thus that the average of the deposit, which in 1892 was \$29.90, dropped to \$24.52 during the years following 1895. Another important cause of the lessening of the deposit has been the increase of insurance opportunities of all kinds.

On the other hand, during the year 1882 there were 53,956 reimbursements made, representing a total of \$3,438,181, or an average of \$63.69 for every withdrawal; for 1903 these figures were respectively 1,952,136 reimbursements, \$86,976,870 drawn out, with an average of \$44.39 for each withdrawal.

But not all the statistics are in favor of the bank. A very decided campaign against savings banks began about the middle of 1902, and it is not altogether over yet. Its object seems to be to incite depositors to withdraw their savings and put them in private insurance, etc. This campaign has been successful in augmenting the amounts withdrawn and in diminishing the deposits. For instance, in 1903 the

number of deposits was 3,445,147, against 3,565,896 in 1902, 3,540,399 in 1901, while the amount deposited fell off some \$2,700,000, being \$83,762,000 in 1903, against \$86,464,000 in 1902. The number of reimbursements made in 1903 was 1,952,136, against 1,881,000 in 1902 and 1,765,099 in 1901, or an augmentation of 70,436, or 3.7 per cent, between 1902 and 1903, and 187,037, or 9.5 per cent, between 1901 and 1903. The amount paid out was \$86,976,870 in 1903, against \$86,684,972 in 1902 and \$77,906,567 in 1901, from which it is seen that if the difference is small between 1903 and 1902 it is more than 10 per cent, between 1903 and 1901.

From these comparisons, however, it should not be concluded that the bank is insecure, or even in an unsatisfactory condition. In 1903 the number of accounts opened was 23,500 less than in 1902. Before, the number of cash balances increased from 262,230 in 1902 to 305,548 in 1903. Moreover, the cash due to depositors on December 31 of each year sensibly increased, a fact due to the capitalization of interests. In 1901 there were \$208,440,000 due depositors, in 1902 \$213,458,000, and in 1903 \$215,581,000.

The State bank and the ordinary savings banks address themselves to an entirely different class of people. Depositors in the latter are mostly small landholders and farmers, while workmen in factories patronize the State bank, the amount of the deposit in which averages less than in the common banks. Some French economists are of opinion that France has not followed the example of Belgium in the development of the State and ordinary savings banks. Hungary has only the State savings bank, and in England, Norway, Sweden, and Italy the ordinary savings banks are disappearing before the State savings banks.

Altogether, the last report of the "Caisse National d'Épargne" of France shows it to be in a prosperous condition despite the economic crisis through which French savings have been passing for more than ten years.

One advantage of an institution of this kind in the United States would be not only to teach the people economy and thrift, but the statistics would aid commerce. An increase in one State would mean good crops, healthy harvest fields, fruits, vegetables, and cattle. A glance would inform the merchant where his goods would find a ready or indifferent sale, the speculator where the most favorable market existed, and the investor the relative value of real estate. Such statistics would be an infallible barometer of trade.

THORNWELL HAYNES, *Comptroller*

ROUEN, FRANCE, *December 21, 1904.*

GERMAN AUTOMOBILE REGULATIONS.

(From United States Consul Brundage, Aix la Chapelle, Germany.)

Regulations governing the use of automobiles in Germany are made by the police and are always subject to change by simple order. All rules are strictly enforced. On arrival, the owner of a machine must go to police headquarters, give his name, age, place of birth, etc., name of machine, where manufactured, weight, etc., and make formal application for a police number. No action can be had until after twenty-four hours have elapsed, when, if no objection intervenes, a sealed letter will be given to the applicant to be delivered to an official appointed by the police, in most cases an automobile manufacturer or agent, who will fix a time to present the machine for examination. After the examination a sealed letter is given by the examiner to the owner to take to police headquarters. If all regulations are complied with and the examiner's decision is satisfactory, after twenty-four hours a police number, a foot square and made of tin, with number, etc., nicely painted, will be brought to the owner of the machine, with a charge of 1.5 marks, or 35 cents. The sign must be fastened to the rear of the car, and a lamp must be so adjusted as to throw light directly upon the number.

The following are a few points in the police regulations that are specifically passed upon by the examiner: The auto must have two separate and hanging brakes; each brake must be capable of bringing the machine to a standstill while at a 10-mile gait within 8 meters (26.24 feet), and the machine must be capable of being turned in a street 10 meters wide (32.8 feet); it must emit no smoke or smell; the exhaust must not be in evidence upon the street; it must make no unnecessary noise, and it must be a safe and mechanical machine. The lamps must be of clear glass, and throw a light 20 meters (65.6 feet) in the darkest night. The steering gear, brakes, and horn must be so placed that the driver will not mistake them in the dark. A plate, with name of the machine, where made, number of horsepower, and weight must be in sight, and the machine must not appear on the streets or roads without a number. No one under the age of 18 years is permitted to drive an automobile. Printed police license on heavy linen paper, free of charge, is given, and must always accompany the automobile for police inspection. The license is always subject to recall. The duty upon a machine as a whole is \$1 per 100 pounds; lamps and detachable fixings are subject to an additional specific duty. The duty on four rubber pneumatic tires is approximately \$2. The insurance and freight on a machine from New York or Philadelphia to Germany is approximately \$30 to \$40. Customs duties can be paid subject to return, when the

automobile leaves German soil within one year and the custom is not broken or off the machine.

An American automobile was recently refused a license in this district because all these regulations were not complied with. This gives competitors an opportunity to talk. It is very easy to give competitors an opportunity to disparage an American machine. The refusal to grant the license has resulted in taking the machine out of the market for the time being. Small auto cars must have two small hanging brakes or one large brake.

FRANK M. BRUNDAGE, Consul.

AIX LA CHAPELLE, GERMANY, *November 26, 1904.*

VOTERS AND PARTIES IN BADEN.

(From United States Consul Liefeld, Freiburg, Germany.)

According to the lists there are in Baden 419,122 voters, or an average of 22.4 to every 100 inhabitants. Of this number 331,200, or 79 per cent, voted, of which 329,880 votes were declared valid and 1,320 were declared invalid. The distribution as to parties was as follows:

Number of votes cast in the Grand Duchy of Baden, Germany.

Parties.	Number of votes cast.
Central.....	134,159
National Liberal.....	108,580
Social Democrat.....	72,300
Conservatives.....	10,266
German National Party (Volkspartei).....	5,730
Freethinkers (Freisinnige Volkspartei).....	3,428
Scattered.....	407

The Central party, which is called by its opponents the "Black" party, far surpasses in strength all others in the smaller towns of less than 2,000 inhabitants, but it has less influence in the larger towns, as may be seen in the following table:

Percentage of votes cast for leading parties in the Grand Duchy of Baden, Germany.

In towns of—	Per cent of votes cast for—	
	Central.	National Liberal.
Less than 2,000 inhabitants.....	52.3	30.5
From 2,000 to 10,000 inhabitants.....	39.4	32.6
Of 10,000 or more inhabitants.....	19.8	32.0

In the cities the National Liberals have 33.8 per cent, the Social Democrats 32.2 per cent, and the Centrals but 28.2 per cent.

votes cast, while the reverse is the case in the country towns, namely: Centrals, 49.2 per cent; National Liberals, 29.7 per cent, and Social Democrats, 14.7 per cent.

E. THEOPHILUS LIEFELD, *Consul*.

FREIBURG, GERMANY, *December 12, 1904.*

AMERICAN SALMON IN DENMARK.

(*From United States Consul Frazier, Copenhagen, Denmark.*)

The steamship *Oscar II*, on its last trip from New York to Copenhagen, brought 30,000 Columbia River fresh salmon for delivery to consumers in Copenhagen, Berlin, Paris, and other European cities. The fish were forwarded to New York in refrigerator cars and to Copenhagen in cold storage. It is the first shipment of the kind. The fish arrived in excellent condition. They were consigned to a prominent wholesaler here, who forwarded the greater portion of them to branch houses in Berlin and Paris.

The construction of enormous ferries for service between this island and the Continent, and the opening of the new line a year ago, are destined to bring Copenhagen and Berlin into closer social and commercial relations than formerly existed. The two immediate advantages of especial importance accruing from the construction of these large ferries for service between Gjedser and Warnemünde are (1) that perishable goods may now be shipped in through refrigerator cars, and (2) that there is now a through sleeping-car service between Copenhagen and Berlin.

It is now demonstrated that the improvement in transportation facilities between the island on which Copenhagen is located and the Continent is not without economic importance to the United States. In any event, the shipment of fresh salmon from the Far West to Berlin and Paris via Copenhagen is an achievement in modern commerce and transportation worth recording.

RAYMOND R. FRAZIER, *Consul*.

COPENHAGEN, DENMARK, *December 21, 1904.*

DRAWBACKS TO AMERICAN EXPORT TRADE.

(*From United States Consul Bergh, Gottenborg, Sweden.*)

It is a great disadvantage that American exporters have not found a way, with safety to themselves, to grant credit to foreign purchasers. The terms cash against documents or cash before shipment are objectionable to many who are used to credit in Europe. This objection is still stronger when goods are bought which have not already gained a

good reputation. Suppose that an importing agent here (Gottenborg) agrees to deliver an American gasoline motor of 20 horsepower but when the motor arrives it will not work, or may only develop 15 horsepower. In order to keep his contract the agent will have to put the motor in working order, which will take time and money. It is likely that he will have to pay this himself, because the manufacturer got the price of the motor before it was really delivered. It is claimed that such cases have occurred, and that this finishing up here in one case cost as much as two-fifths of the original price to the manufacturer. Thus the importer may lose on the transaction instead of gaining, and consequently get disgusted with the business and try somewhere else.

It has been proposed that some part of the purchase sum, say one-third, should be deposited in a bank, to be delivered within a reasonable time to the seller, but only on the order of the purchaser, with notification that the goods are up to agreement. In disputes it is suggested that the nearest American consul should, at request, appoint some disinterested person to see that the importer does not make unjust objections.

Another drawback is delayed delivery either by the manufacturer (exporter) or by the fault of the forwarders or express companies to whom the goods are intrusted. It is suspected that when goods are delivered to certain forwarding agents or express companies they delay them some ten or twelve days in order to collect a larger quantity of similar goods to send at one time. It is claimed that some light canvas was once ordered from the United States to be used for sails on Gottenborg pleasure yachts, which were to take part in a race. The seller in the United States furnished the goods promptly, but they were delayed ten or twelve days in the American seaport and the same length of time in Copenhagen, from which place they were finally sent to Stockholm. In the meantime the importer communicated with European agents of the American forwarders and requested that the goods might be sent direct from Copenhagen to Gottenborg by the shortest way—instead of via Stockholm, but the forwarders answered that they had certain reasons of their own for sending via Stockholm. Think of sending goods in a roundabout way some 600 miles longer than necessary, when it was important that they should arrive in time. The result was that the importing agent had to pay special extra freight from Stockholm to Gottenborg, and still the goods had to wait forty-two days on the way and came too late, causing a great deal of trouble because the yachts did not get quite ready in time for the race, although the sailmakers worked night and day after the canvas arrived.

It is claimed that about the same has happened with other articles to be used under similar conditions, and perishable goods, such as apples, have been spoiled on the way, chiefly by reason of the

delays in the ports of transit. It is very easy to figure out that such conditions will greatly injure American export business, and ought to be corrected. From my own experience I know that it takes about as long time to get American goods from Copenhagen to Gottenborg as from New York to Copenhagen.

ROBERT S. S. BERGH, *Consul*.

GOTTENBORG, SWEDEN, *December 22, 1904.*

COMMERCE AND INDUSTRIES OF KOREA.

(*From United States Consul-General Paddock, Seoul, Korea.*)

The constant growth of the trade of Korea, as evidenced by customs returns, is somewhat remarkable in view of the unfavorable internal condition of the nation, and is to be explained only by a consideration of the comparatively large and but partially developed resources of the country. It is safe to assume that at the conclusion of the present hostilities, of which Korea is at least partially the objective, but from the ravages of which she has been thus far providentially spared, a greater development awaits her, and further expansion of her foreign trade.

With no very exceptionally good harvest, but with a severe epidemic of cattle disease—particularly serious to an agricultural community whose cattle are one of its principal means of transportation—with continued depreciation of the native nickel currency, and with the anxiety caused by impending war, the year 1903 still shows a marked increase in Korea's foreign trade. The total gross trade of the treaty ports amounted to \$19,585,168, against \$15,691,109 in 1902; this includes coast trade between treaty ports, but not the \$2,400 trade of nontreaty ports.

The total net value of the direct foreign trade of 1903 was \$13,792,999, as follows: Imports, \$9,073,153, as compared with \$6,743,621 in 1902 and \$7,318,842 in 1901; exports, \$4,719,846, as compared with \$4,131,900 in 1902 and \$4,214,050 in 1901. In 1903 exports of gold amounted to \$2,717,285, as against \$2,521,925 in 1902 and \$2,486,688 in 1901. The increase in value of direct foreign trade (not including treasure) for 1903 thus exceeded the highest previous total, that of 1901, by some \$2,241,000, or about 19 per cent, and the next highest, 1902, by some \$2,900,000, or over 26 per cent. This increase being relatively larger in imports than exports (including gold), shows a balance against Korea of over \$1,600,000, as against a similar balance of only about \$80,000 in 1902. But, to quote from customs returns, "this large balance may be reduced by an amount nearly equivalent to the value of railway materials imported (\$870,722), and money paid as wages and for supplies by the railway and other foreign companies would further assist in paying the commercial debts of the country."

IMPORTS.

Of the increase in imports the largest item, next to railway material, consisted of food stuffs, principally rice, and other grains, and aggregating some \$597,600. Imports of flour alone amounted to 5,500,000 pounds, valued at \$103,627, as against some 2,000,000 pounds valued at \$36,265 in 1902, and about the same in 1901. Almost all this was American flour imported into Korea via Japan and China. This sudden increase may be partially accounted for by a bad wheat crop, but conditions are such that the market seems likely to hold its own.

Cotton goods, as a class, constitute the largest item of imports. In 1903 cottons were imported to the value of \$2,879,207, showing an increase over 1902, and a decrease as compared with 1901. According to customs returns these imports may practically be classed, in terms of equal value, as British and Japanese. It is a fact, nevertheless, that a considerable portion of the cotton drills and sheetings imported were of American manufacture. That British cottons can thus hold their own against Japanese competition would seem to argue that a much larger share in this trade might be developed for American cottons. A study of the local demand and conditions in this country, where the "national costume" is composed mainly of cotton sheeting.

A taste which has enormously developed in Korea of recent years is for cigarettes. Native tobacco is used by the countrymen in long pipes, but in the cities and even among the laboring classes where they can afford it, the use of the cigarette has become almost universal. Cigarettes were heretofore imported almost exclusively from Japan, made partially at least of American tobacco. In 1902 a cigarette factory, on rather a large scale for Korea, was opened by an American concern at Chemulpo, but for some reason did not prove a success. There is at present, however, a small factory at Chemulpo now manufacturing cigarettes from a mixture of Richmond and native tobaccos, which is reported to be doing a good business. Recently an American and a British company established an agency in Korea and will bid for a share of this growing trade. The figures show an increase in value of imports of over 85 per cent for the past two years. The imports of tobacco, cigars, and cigarettes (principally cigarettes) in 1903 were valued at \$157,608 as against \$98,903 in 1902 and \$85,000 in 1901.

Customs returns for 1903, showing the net value of direct foreign trade by countries, are the first in which a separate account is made for American and British trade. The total of imports and exports from Japan was \$9,538,987; from China, \$3,440,087; Manchurian (Russian) ports, \$226,961. Imports from Great Britain were \$388,571, and from the United States \$198,391.

The figures given for the United States cover principally railway materials and such imports of kerosene (a small proportion) as came direct from America, and that they do not at all represent the extent of our trade with Korea may be seen from the importation of American oil alone. The Standard Oil Company has at Chemulpo and Fusan large "godowns" or storehouses, especially built for storing its oil, most of which is imported in 5-gallon tins from the company's branches in Japan. In 1903 the imports of American kerosene were 2,232,127 gallons, valued at \$242,008. This shows a decrease compared with 1902, the best previous year, when the imports were 3,461,980 gallons, valued at \$380,458, and 1901, with 2,463,631 gallons, valued at \$306,523. In the Chemulpo customs report this falling off is accounted for by the fact that, in so far as that port is concerned, Russian oil was for the first time imported in competition, but this is not a completely accurate explanation, since importations for any year do not necessarily correspond to the sales of that year. It has been stated as a matter of fact that this importation of Russian oil has not materially affected the sales of American oil. The latter, though higher in price, because better, is preferred by the natives, as it does not congeal in the cold of the Korean winter.

EXPORTS.

As regards the exports of Korea, it can not be said that, as yet, many of them are such as American trade demands. Aside from gold the minerals thus far developed consist mainly of iron, copper, and coal. A French company has undertaken the manufacture of briquettes from a kind of disintegrated anthracite found in northwestern Korea, but its operations were suspended by the present war before the merit of the industry had been proven. A Korean company has also recently been organized, with an American miner as superintendent, to mine what is claimed to be a more solid form of the coal, found in the same region. It is reported that this company will shortly receive from the United States machinery sufficient to begin operations. Copper and iron mining seem to be solely in the hands of the natives.

In considering Korean exports mention should be made of ginseng, since within the past few years quite an interest in the cultivation of this root has arisen in America. The cultivation of Korean ginseng is a Government monopoly, and has in the past yielded a considerable income. In 1903 exports were valued at \$490,071 and in 1902 at \$596,650. It is, however, an article of rather uncertain merit and of such fictitious value that in 1902 a large portion of the crop in Korea was destroyed in order that the market (principally Chinese) might not be glutted. It would hardly seem, therefore, as if its cultivation

in the United States for the oriental market, in competition with the Eastern product, would adequately repay the care necessary in making it.

AGRICULTURE.

Korea is primarily an agricultural country, whose principal products are rice, beans, millet, and some wheat; although it would seem that its soil and climate are well adapted to raising any of the products of a temperate region. Some cotton is grown, but none is of very high quality. Silk, for which the conditions of climate, etc., would seem to be admirable, is also cultivated to a certain extent.

On arrival in Korea one's attention is at once attracted to the fine cattle, mostly bulls, used as beasts of burden. These much resemble American cattle, and all are large, powerful animals. It certainly seems that Korea, with any proper regard to breeding and feeding, might supply a large share of the beef of the East, but, unfortunately, no agricultural development can be expected of this country under existing conditions, for, instead of a premium on industry there is a penalty, since the farmer who lays aside more than sufficient for immediate use becomes at once a mark for the taxgatherer. This unfortunate condition has effectually prevented any real development of the natural resources of the land.

MANUFACTURES.

In native manufactures and industries the results are for the most part extremely crude. Among the best may be mentioned a kind of very strong, coarse paper, used mostly for floor coverings, but which might be well adapted to other uses. There are also made some excellent reed and straw mats and mattings and hair cloth. These have never been produced in any considerable quantity for export.

CURRENCY AND BANKS.

Perhaps the most serious discouragement to the development of Korea's trade at present lies in the almost hopeless condition of her monetary system—another result of her unfortunate political condition. The native currency consists of nickel coins of a face value of 2½ cents United States gold, of copper cash, and copper coins; but at certain localities, as in the American mining district, silver dollars are only will be accepted by the natives. In and around Seoul the nickel is used. In the past these nickel coins have been poured out by the Government mint without regard for the future and without reserving any reserve metal. Besides this unlimited coinage, permission for coining were freely granted to private persons, and finally, to matters as bad as possible, counterfeiting became so common that there were at times about as many spurious as genuine nickels in

ulation. There were reported at one time 26 different varieties of nickels in circulation, most of them bad. It is, therefore, not surprising that these coins should have depreciated until there was a time when the Japanese yen (49.8 cents United States gold) was the equivalent of \$2.60 in nickels.

Banking in Korea is almost entirely confined to the Japanese banks, of which Dai-Ichi-Ginko (first bank) of Japan is the most important, with branches at Seoul and all the treaty ports. This bank has issued, with authority of the Japanese Government, special notes for use in Korea, of denominations of 1, 5, and 10 yen, which, with the bank notes of the Bank of Japan (Nippon Ginko), form the currency in general use among the foreign community. Japanese subsidiary coins of 10, 20, and 50 sen (silver) and 5 sen (nickel) are also current. (100 sen=1 yen=49.8 cents United States.)

EFFECT OF THE WAR ON TRADE.

That trade for 1904 should have been at once affected by the Russo-Japanese war, opening as it did with the sinking of the Russian war ships *Variag* and *Korietz* in Chemulpo Harbor on February 9, goes without saying. Immediately Chemulpo and other Korean ports were closed to trade, and for a time remained so. The majority of the Japanese merchant ships which had been plying to Korean ports were taken by the Japanese Government for its transport service. The scene of war, however, shortly passed beyond the borders of Korea, and though for some time thereafter communication with her ports was somewhat limited, little by little her trade has quietly and gradually revived until at the present time, except for uncertainty as to dates of arrival and departure and higher freight rates, no very great inconvenience can be said to exist.

The war has had a varied effect on Korean trade and industries. Large numbers of troops to be fed and large railway and other undertakings being pushed forward have distributed much money throughout the country. The Korean laborer has often had more ready money than it was ever his lot to enjoy before. On the other hand, the effect has been to paralyze certain other industries, and through requisition of coolies for transportation purposes and railway work, at a time when crops were to be harvested, agriculture has to a certain extent suffered. It is most worthy of note, however, that from the orderly manner in which the campaign in Korea has been conducted the regular routine has been disturbed remarkably little. For example, the operators at the American mines, which region was successively in the occupation of the Russian and the Japanese troops, have no fault to find with either, and except for difficulty in getting supplies through lack of transportation facilities, and in losing some native laborers, principally because of the attraction of war wages, but little inconven-

ience has been suffered, and mining operations have gone on more usual.

Certain branches of trade seem now to be reviving in greater strength than before. Following the advance of the army, there has been enormous immigration of Japanese, mostly laborers and small merchants, and much of the available land in the treaty ports, namely Fusan, Chemampo, and Chemulpo, and the cities of Seoul and Pyongyang, has been bought up by Japanese. Improvements of the harbor of Fusan and Chemulpo, and construction of terminal facilities for railways in Fusan, Seoul, and Pyongyang have called for an unprecedented importation of building materials, tiles, etc. Though at present impossible to obtain complete returns, figures available so far show a wonderfully healthy condition of ordinary trade. No information is, of course, obtainable concerning imports for military purposes including materials for construction of railways by the military, in what might be called regular imports a substantial increase is also shown in kerosene and in cigarettes.

For the half year ended June 30, 1904, 1,833,129 gallons of American oil were imported, and though it is to be regretted that government secrecy makes it impossible to give further information than given in preliminary returns of customs it is a fact that the trade in oil has lately shown a remarkable increase. The same is true of cigarettes to a degree even greater. Imports of these for the period named amounted to no less than \$256,570 as compared with \$157,608 for the year 1903, the best on record. Some 2,000,000 pounds of flour, mostly American, were imported in the half year, and as but little was imported in the first quarter, this trade promises to equal its record of 1903. Other goods seem to have gone somewhat backward, but will doubtless soon improve. Mining materials to the value of \$68,103 were received, a good record considering the difficulties of transportation. Exports of gold for the period amounted to \$1,003,752, which, for the reasons given, is perhaps more creditable, taking the risk of loss into account.

EXTERIOR COMMUNICATION.

Transportation, though still suffering the loss of ships taken from the transport service, is fairly well reestablished. A Japanese company, the Shosen Kaisha, has frequent small steamers between Korea and Japan. The largest Japanese company, the Nippon Yusen Kaisha, has several foreign ships under charter, which maintain a regular service between Japan, Korea, and China (Chifu). The Hamburg-American Company runs fortnightly steamers between Chemulpo and Shanghai, and one steamer under the American flag, the *Ohio* (registered at Kobe, Japan), belonging to an American resident of Korea, maintains a regular service between Chemampo, Chemulpo, Mokpo, Fusan,

Korea), and Kobe and Osaka (in Japan). This ship is the one most favored by passengers between Korea and Japan on account of its excellent passenger accommodations. The excellent service promised by the steamers of the Chinese Eastern Railway Company came to a conclusion with the opening of the war, when its steamer *Sungari* was sunk in Chemulpo Harbor. American shipping is unfortunately but rarely seen in Korean waters. There is, however, at Chenampo, a considerable clearance of small ships bearing the American flag, the property of the American Mining Company.

DEVELOPMENT OF AMERICAN TRADE.

As to the development of American trade it is believed that comparatively little can be accomplished under existing conditions, except by representation on the spot. It must be remembered, too, that Korea's American and European population is insignificant as yet, and that there is, therefore, but a very limited market for such articles as might be termed those of luxury. The country is thus far mainly an agricultural one, but it is doubtless in a transition period. What its future will be, however, depends much on the turn of events. In any case its much larger development would seem to be promised, and with that must come further opportunities for foreign trade, of which Americans seem thus far to have well availed themselves. It is an undoubted fact that American commercial interests in Korea to-day are greater than those of any one European nation.

GORDON PADDOCK, *Consul-General*.

SEOUL, KOREA, November 4, 1904.

Trade of the United States with Korea, 1892 to 1904.^a

Year ended June 30—	Imports from Korea.	Exports to Korea.
1892.....	\$608	.....
1893.....	79	.....
1894 ^b.....	.....	.....
1895.....	100	.....
1896.....	82	\$32
1897.....	.....	509
1898.....	.....	125, 936
1899.....	408	141, 679
1900.....	105	126, 965
1901.....	768	215, 551
1902.....	.....	251, 563
1903.....	22	171, 400
1904.....	290	387, 579

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

^b No transactions reported.

COMMERCE AND INDUSTRY OF MOSUL, TURKEY
ASIA.*(From United States Consul Norton, Harput, Turkey in Asia.)*

Having had the opportunity to pay a brief visit to the city of the first there of an American consul, I utilized the occasion to the following data. I am indebted to my colleagues, the French vice-consul and the British consular agent, for most information secured.

CITY OF MOSUL.

The city of Mosul is a walled place, located on the right bank of the Tigris, halfway between Diarbekir and Bagdad, about 225 miles direct line from the latter city. The ruins of Nineveh are on the left side of the river, and the ruins of the other great cities of Assyria, Nimrud, Khorsabad, etc.—are near by. The population of the city is about 100,000, and that of the entire vilayet is estimated at 500,000. Of this number about 20,000 belong to various Christian sects. There are 11,000 Jews, and 13,000 Yezidis, or devil worshippers. The remainder of the population is Moslem, consisting of Arabs, Kurds, and Turks. Protestant missions have gained a few adherents. The Catholic missions have been conducted on a much more extensive scale. Mosul is the center of the important mission work of the Dominicans in Mesopotamia and Kurdistan. They maintain here schools with a large attendance, and conduct a well-appointed printing establishment from which issue text-books and other works in the various languages of the region. The type for these oriental languages is made at the establishment. Various periodicals are printed, and altogether the typographical activity ranks second only to that of such a city as Beirut.

COMMERCE.

The commerce of the vilayet of Mosul centers almost entirely in the chief city, and the following statistics, which represent the movement of merchandise to and from the city of Mosul, may be taken as representing practically the exchanges of the whole vilayet. The figures given are necessarily but approximations, as no attempt was made to gather official data. They are estimated for the year 1903.

Imports into the city of Mosul, Turkey in Asia, 1903.

Commodity.	Value.	Country of origin.
FROM ABROAD.		
Cotton yarn.....	\$400,000	United Kingdom, India.
Cotton fabrics.....	210,000	United Kingdom, Switzerland.
Carpets.....	36,000	Persia.
Flannels.....	24,000	Germany, Austria.
Coffee.....	20,000	United Kingdom, France.
Drugs and spices.....	12,000	France, India.

Imports into the city of Mosul, Turkey in Asia, 1903—Continued.

Commodity.	Value.	Country of origin.
FROM ABROAD—continued.		
Indigo	\$11,000	Austria, France.
Sugar	11,000	India, France.
Cigarette paper	10,000	Austria, France.
Cloths	8,000	United Kingdom, Germany, Austria, France.
Petroleum	8,000	Russia.
Shawls	8,000	United Kingdom, Austria, France.
Lamps, hardware, crockery, glassware	7,600	United Kingdom, Austria.
Sacking and cordage	7,000	United Kingdom.
Fezes	6,000	Austria, Switzerland.
Dyestuffs	6,000	United Kingdom, France.
Tin, zinc, and other metals	5,000	Germany, Switzerland.
Leather	3,600	France, Belgium.
Muslin, velvet, satin	2,400	France, Germany, Austria, United Kingdom.
Thread	2,000	United Kingdom, France.
Silk fabrics	2,000	India, Persia, France.
Stationery	2,000	Austria, United Kingdom.
Matches	2,000	Austria, Italy, Sweden.
Candles	2,000	France, Belgium.
Sewing machines	1,800	United Kingdom, United States.
Iron and copper	1,540	United Kingdom, Switzerland, Russia.
Clocks and watches	1,400	Switzerland, United States, Germany.
Window glass	1,400	United Kingdom.
Toilet articles	1,000	Austria.
Tea	1,000	India.
Pharmaceutical products	1,000	France, Germany, India.
Wines and liquors	600	France, Greece.
Pigments	400	United Kingdom.
Total from abroad	815,740	
FROM OTHER VILAYETS.		
Tobacco	52,000	Adjoining region.
Soap	40,000	Aleppo, Diarbekir.
Cotton fabrics	36,000	Syria.
Butter	34,000	Adjoining region.
Hides, ox and buffalo	29,400	Do.
Rice	28,000	Do.
Cotton and cotton yarn	27,600	Do.
Dates	24,000	Bassorah.
Olive oil, charcoal	22,000	Adjoining region.
Fruits, lentils, beans	16,000	Diarbekir.
Silk fabrics	8,000	Bagdad.
Linon	5,600	Trebizond.
Total from other vilayets	322,600	
Grand total	1,138,340	

The exports from Mosul are estimated at \$738,000 annually, of which about 70 per cent go to foreign countries. It has been estimated that France receives goods to the value of \$100,000 annually. The exports are divided approximately as follows:

Annual exports from Mosul, Turkey in Asia, by raft to Bagdad in transit for Europe.

Commodity.	Value.	Destination.
Gall nuts	\$100,000	London, Marseille.
Sheep intestines (sausage casings)	60,000	Trieste, Constantinople.
Merino wool	70,000	London.
Arab wool	60,000	Marseille, Hamburg, New York.
Kurdish wool	16,000	Do.
Wax	2,000	Marseille.

Annual exports from Mosul, Turkey in Asia, forwarded by caravan to Aleppo for Europe.

Commodity.	Value.	Destination.
White morocco leather	\$140,000	Russia, London, Trieste.
Skins:		
Goat	65,000	
Lamb	10,000	
Marten	10,000	
Fox	4,000	

Live stock of the following estimated values were sent to Asia, Syria, and Egypt: Sheep, \$91,000; cattle, \$65,000; lambs, \$13,000; buffaloes, \$13,000. Mosul exports annually to India about 700,000 valued at \$55,000.

Agricultural products sent by raft to Bagdad for local consumption are estimated at the following annual amounts:

Agricultural products of Mosul, Turkey in Asia, sent annually by raft to Bagdad.

Commodity.	Tons (2,240 pounds).	Value.	Commodity.	Tons (2,240 pounds).
Wheat.....	1,000	\$18	Butter	30
Barley.....	1,200	9	Figs.....	25
Raisins.....	900	32	Oil of sesame.....	20
Lentils.....	700	20	Olive oil.....	15
Pease.....	600	22	Beans.....	17
Sesame.....	300	50	Honey.....	15
Almonds.....	60	286	Pistachio nuts.....	12
Hazelnuts.....	60	106		
Walnuts.....	45	56		
Potatoes.....	50	28	Total.....	5,055

TRANSPORTATION.

The question of transportation is of prime importance. It is the cost and insecurity of the existing methods of transporting that Mosul lags behind in the general development of the commerce of Turkish cities. At present the commercial movement is almost entirely to two routes: (1) That of Bagdad, on or along the Tigris; (2) that of Diarbekir, Aleppo, and Alexandretta. The latter is favored for exporting, the latter for importing.

Merchandise is transported by canal, donkey, horse, or mule, or by raft on the Tigris. The usual load of the camel is 475 pounds, of the horse or mule 330 pounds, and that of the donkey 200 pounds. Freight is dispatched by the load, or, when a considerable amount is involved, by kantar of 595 pounds. The rates fluctuate, as follows for transportation by kantar: Mosul to Aleppo by horse or mule, \$8.25 to \$11; by camel, \$6.50 to \$8.25; Aleppo to Mosul by camel, \$8.25; by horse or mule, \$11.25 to \$13.10; Bagdad to Mosul by camel, \$5.25 to \$6.50; by donkey, \$6.50 to \$8.60; Mosul to Bagdad in spring, \$1.60; in summer, \$3.60. The charges from A

Mosul are \$7 to \$8.75 for a loaded horse, and for a loaded camel \$4.75 to \$5.60.

The transportation of freight by rafts on the Tigris is carried on as in the days of the ancient Assyrians. It is picturesque, yet well adapted to the needs of the situation. These rafts consist of from 50 to 250 inflated goatskins or sheepskins, closely and strongly attached to a framework of poplar beams. On this a rude platform is placed, which serves to receive the load. Passengers ride on the freight or in small cabins, which are well roofed with tarred cloth. Two enormous sweeps are fastened to rowlocks, and used by the raftsmen more for guiding than propelling the simple craft. Punting is practiced in the shallower stretches. These rafts descend the swift Tigris from Diarbekir to Mosul, or from Mosul to Bagdad in four or five days when the water is high (in the late spring), and in double or triple that time when the water is low (August to October). When the raft arrives at its destination the load is discharged, the skins are deflated and sent back by a pack animal to the port of origin, while the wood employed in the construction readily finds sale at good prices in Mosul or Bagdad.

Freighting by raft down the Tigris is accomplished at slight expense. A journey by raft offers many attractions likewise to the traveler. Apart from the easy, restful features, as compared with the ordinary methods of locomotion in the Orient, there is a special charm in drifting through the magnificent gorges of the upper Tigris between Diarbekir and Jezireh.

At slight expense the navigation of the Tigris from Bagdad to Mosul could be rendered safe and easy for light-draft steamers at all seasons. A somewhat greater expense would open to similar steamers the upper stretches of the river from Mosul to Diarbekir. The realization of such a plan would at once bring the interior of eastern Turkey into close and economical communication with the main arteries of the world's commerce and would open a new trade route to northwestern Persia.

At present there is a limited amount of caravan traffic between Mosul and Persia by the route leading from Suleimania to Veranshah. Needless to say, the merchants of Mosul look forward with longing to the completion of the Bagdad Railroad. There is every reason to believe that with the advent of the railroad, the establishment of light-draft steamer lines on the Tigris, and above all, the widespread utilization of the water of this river by the construction of canals and ditches, as in the days of Sennacherib, the broad plains of Assyria and Mesopotamia will again become the garden of Asia and the center of untold activity. Snow does not fall at Mosul, and two crops annually are secured from all irrigated fields. At present water is laboriously raised from the river and from wells by buckets attached to endless chains, worked by mule power.

Little is done by the local administration in the way of furnishing public facilities. A pontoon bridge connects Mosul with the east bank of the Tigris, and joins a long, fairly well-built stone bridge of arches, which extends over the broad strip of flat land covered by water in flood time. Carriage roads, as such, are nonexistent. Carriages are not used in or around Mosul. A single ramshackle cab is mentioned before the government buildings, which are located outside the walls, and finds an occasional passenger. It is practically impossible for a wheeled vehicle to circulate in the narrow streets of the city.

Carriages can traverse most of the caravan routes of the country without great difficulty, as the country is flat. At rare intervals caravans come from Aleppo, via Diarbekir, and also across the desert from Damascus, via Palmyra and Deir-es-Zor. In springtime, when the low tracts become temporary marshes, wheeled traffic is out of the question on many routes.

MONETARY STANDARD.

The monetary standard is the Turkish gold lira (\$4.40). The "piaster" is of less value than in Anatolia. The values of the currency in circulation in these "piasters" are as follows: Turkish lira = 100 piasters; English pound (\$4.8665) = 150 piasters; French napoleon = 119 piasters; Turkish mejidieh = $25\frac{1}{2}$ piasters. There is no branch of the Ottoman Imperial Bank, but local merchants and money-changers generally accept drafts on London or Paris at full value.

MAIL FACILITIES.

Mosul has weekly posts from Bagdad, Constantinople, and Aleppo, via Diarbekir. Letters from Constantinople are fifteen to twenty days in transit.

AMERICAN GOODS IN MOSUL.

I found the bazaars of Mosul fairly well stocked with articles of European manufacture. From America there come little buttons, sheeting, timepieces, and the omnipresent sewing machines. The textile industry is well developed and great activity reigns in the city. Few articles, however, are manufactured beyond the needs of the city itself, and there is little left of the former extensive textile industry, one of the products of which—muslin—received its name from this city.

With the exception of an American sewing machine company, no foreign house is represented at Mosul. The local merchant is almost exclusively with jobbers at Bagdad, Aleppo, and Constantinople.

THOMAS H. NORTON, Consul.

HARPUT, TURKEY IN ASIA, December 7, 1904.

AMERICAN SUCCESS IN TRADE.

(From United States Consul Halstead, Birmingham, England.)

A writer in a recent number of the Times bases some remarks on the causes of American success on an experience of twenty months' residence in St. Louis. He says that this success is obtained in the face of disadvantages from which the English employer does not suffer, at least in not so acute a form.

The American employer contends with less efficient assistance from the rank and file, who, blessed with a restless temperament, are frequently prompted to change their allegiance to other firms in the hope of betterment. He is, to a greater extent than in England, hindered by strong labor unions, while politics, which affect so largely industrial conditions, are a factor of instability unknown in England.

Nevertheless, he succeeds, and I attribute this mainly to the fact that he is willing to take risks. Life, after all, is a game of chance, and he who will not play unless he is sure to win perforce stands by inactive, which amounts relatively to falling behind. An American is not content with one thriving business, but will speculate in another enterprise or twenty, relying upon success in one to compensate for failure in another; whereas the Englishman, with his prejudice against novelty and his horror of failure, runs less risk, but at the same time less chance of a brilliant success. With him a new idea stands condemned for its very virtue, and unless it presents the elements of immediate success, and he can be assured that someone else has already done it, he seldom accepts the undertaking.

I once endeavored to introduce a new machine into England, and offered it on trial to a leading firm in the trade at no expense to them and with no conditions of purchase. They refused on the plea that they already had all the most up-to-date machines. Such a reply from an American firm is inconceivable. Another English firm refused to book orders because they had enough work for two years ahead. An American firm would, I imagine, have risked an extension of plant and continuance of orders to recoup the outlay. These are two typical instances of the method of marking time which hardly constitutes progress.

Another risk the American will assume is to sell goods at a loss with a view to create a new market, relying upon the force of habit which leads a customer accustomed to a certain article to gradually pay an increasing price for it, until the sale becomes profitable.

Again, the American pays particular attention to the selection and promotion of his subordinates, trusting his judgment rather than testimonials and certificates, which play so important a rôle in England, and which are, after all, only the opinions of third parties. The American employer quickly gauges the value of his new assistant, and, if desirable, will promote him over the heads of his seniors who have taken a claim for advancement by sitting on office stools for a period of years. To place a new man suddenly in a position of command is a risk which is often worth the while. The American business man recognizes that the success of an enterprise largely depends upon efficient assistants, and it is his endeavor to secure the best and attach

them to him by making their interest common with his own. men that tell, not systems. The judgment of an Englishman is to be affected by prejudices of caste, family connections, national precedents, and past records. A recognition that intelligence and integrity stand before all other considerations is a wonderful lubricant to the wheels of progress.

A little more pluck and adaptability, combined with a knowledge of foreign languages and requirements, are essential, and an absence of prejudice against the metric and decimal systems is not to be despised in the struggle for new markets on this as well as the American continent.

MARSHAL HALSTEAD, *Consul*

BIRMINGHAM, ENGLAND, *January 12, 1905.*

LIQUID FUEL FOR STEAMERS.

(From United States Consul Rairden, Batavia, Java.)

Liquid fuel is now largely used by the Dutch steamers Koninklyke Paketvaart Maatschappij (Royal Packet Company), between the different islands of the Netherlands Indian Archipelago. It is residue from the petroleum wells in Netherlands India, the greater part being from the Asiatic Petroleum Company's wells in Borneo.

The total consumption of this liquid fuel by the Royal Packet Company's steamers was 11,700 tons and 16,500 tons for 1902 and 1903 respectively, with an estimated consumption for 1904 of 26,000 tons. The company has contracted for a supply for the years 1905 to 1909 with the Asiatic Petroleum Company to the extent of 32,000 tons per year. The ton is calculated at about 265 gallons. The fuel sells at about \$7.50 per ton, but it is understood no such price is paid the Royal Packet Company when contracting for large quantities. At the present time there are 17 of the company's steamers using liquid fuel, and it is found much more economical than coal, better for the boiler, cleaner in every way, and fewer men are required to work the furnaces.

Credit is due Mr. R. A. Meyer, the superintendent engineer of the Royal Packet Company, for inventing a system of injecting the liquid fuel into the furnaces of the steam boilers. The fuel is injected under a pressure of from 10 to 20 pounds to the square inch and is evaporated by a somewhat modified "Kortings" burner, without the use of steam. This apparatus works very satisfactorily, without the loss of fresh water. Formerly the liquid fuel was injected into the furnaces by means of a steam jet, making very much noise, a great inconvenience, annoying to the passengers, and causing the loss of much fresh water in the form of steam. A suitable arrangement, also invented by Mr. Meyer, guarantees

and perfect burning of the fuel, so that very little smoke escapes from the funnel, steam is kept regularly at the same pressure during the voyage, and the boiler is kept at a uniform temperature, thus preventing much trouble from leakage and other damage.

Liquid fuel was first used by the Royal Packet Company in 1898, and as it has been found satisfactory, all new ships built in the Netherlands have been furnished with proper boilers for the use of the fuel, and many of the older boats have had the necessary change made here. It is, therefore, only a question of time when all the steamers of the company will use liquid fuel.

B. S. RAIRDEN, *Consul*.

BATAVIA, JAVA, *December 7, 1904.*

RAILROADS IN KOREA.

(*From United States Consul-General Paddock, Seoul, Korea.*)

The largest item of increase in Korea's imports for 1903 was that of railway materials, which amounted to \$870,722. The development of the railways of Korea, aside from any political bearing on the future of the peninsula, is a matter of paramount commercial importance and of particular interest to American manufacturers, since the equipment of these railways is to be largely of American manufacture.

The first railway in Korea, that between Seoul and Chemulpo, was built in 1899 by an American concessionnaire of American material and equipped with American rolling stock. This road was sold just before completion to a Japanese company, and has proved a commercial success. It has now been taken over by the Seoul-Fusan Railway Company (Japanese). This company expects, within the following month, to complete its new line, begun in 1901, from Seoul to the southeastern port of Fusan, a distance of some 268 miles. This will establish quick communication between the capital city of Korea and Japan by a connecting ocean ferry from Fusan to Moji, Japan. This railway, like other Japanese lines in Korea, is of standard American gauge (4 feet 8½ inches), and is to be equipped with American locomotives, of which some 20 have been already delivered, 5 of them 110-ton express locomotives.

It was stated that in 1901 and 1902, when rails were first required for the construction of this line, American manufacturers were so pressed with orders that they could not even supply the home demand. Hence, the first rails imported were of British make, and with them a considerable portion of the line has been laid, but more recently large quantities of American rails have been used, and the bridge work of the line is largely of American manufacture.

The construction of a railway to connect Seoul with the northern

border city, Wiju, on the Yalu River, was commenced in 1902 Korean Government, under the direction of French engineers. line, some 300 miles in length, has now been taken over and is in process of construction by the Japanese military authorities. A line about 150 miles long, to connect Seoul with the eastern treaty port, Gensan, is also to be constructed. While the immediate construction of these last two lines is undertaken for military purposes, the result is, and their construction is such, that they shall be permanent, and, since in conjunction with the Fusan line they will connect the northern and southern extremities with the east and west coasts of the peninsula, while traversing the interior, they will eventually open up the most of Korea to the development of trade.

GORDON PADDOCK, *Consul-General*

SEOUL, KOREA, *November 4, 1904.*

In connection with the report of Consul-General Paddock, the following summary of an article in the *Journal de St. Petersburg* of January 7, 1905, may be of interest. The article is dated November 2, 1904.

Since taking possession of the country the Japanese have not failed to display the greatest activity, especially concerning the means of transportation. On January 1 trains will run on the line from Wiju to Seoul. The military line to Wiju is being actively pushed, and Japanese engineers expect soon to be able to open to traffic the line from Liaoyang to Antung. The line from Seoul to Gensan will, without doubt, be finished by the end of 1905, and, in connection with the line from Seoul to Chemulpo, will constitute a way across the peninsula, binding the Yellow Sea to the Sea of Japan. The line from Fusan to the Yalu and from Antung to Liaoyang will also be completed, placing Japan in direct communication with the railroads of East China and Siberia.

As soon as war was declared the Japanese Government saw the necessity of a transit route between Fusan and the theater of operations in Manchuria across Korea. It had, moreover, foreseen this eventuality. Even before the line from Chemulpo, the first line to be constructed in Korea, had been finished, the company which had secured the concession for another railroad to the south had been organized. This was in the autumn of 1898. Eighteen months afterwar commenced, at Yongtongpo, a little city 10 kilometers (6.2 miles) from Seoul, the construction of a branch of the Chemulpo line.

Toward the end of 1903 the work was being actively pressed. The Japanese Government not only guaranteed the necessary capital of 25,000,000 yen (\$12,450,000), but subscribed 2,500,000 yen (\$1,250,000) more, on condition that this road from Seoul to Fusan should be finished by the end of 1904, in default of which the company should repay the advances with interest. These securities were issued in amounts of 100 yen each, bearing 6 per cent interest, but they have since fallen far below par. The expected capital was, moreover, insufficient, and it was

essary to borrow 10,000,000 yen (\$1,980,000) at the banks of Tokyo. The interest has been regularly paid, but the Government was compelled to advance a further sum of 1,580,000 yen (\$786,840) in August, 1904. Thanks to this financial aid, it was possible to finish the line six weeks before the 1st of January, but it will not be opened until that date. It is estimated that the two trains each way daily will make the 340 kilometers (211.3 miles) of road with its 53 stations in fifteen hours. As the region traversed now produces principally rice there is reason to believe that commercial transactions now hindered by lack of transportation will develop considerably, and the company can well find employment later for its 230 freight cars and 53 passenger cars.

The line from Seoul to Wiju is in reality only an extension of the line from Fusan to Seoul; but while the latter was built by private contract, the line from Seoul to Wiju is of military construction. Everything was sacrificed to haste in building; thus one notices that the bridges are all of wood, that they are too frail, and the rails too light. The 360 kilometers which separate Seoul from the Yalu have been covered by the beginning of 1905. It will not be capable of any commercial exploitation to speak of until after additional work which will without doubt take several years.

It is remembered that this line was granted to a French syndicate which resold its rights to the Korean Government on condition that all material should be purchased in France, and that the construction of the line should be intrusted only to French engineers. The Japanese have considered this concession null and void, but still they have used a large part of the plans and have followed the specifications of the French syndicate.

The construction of these railways will without doubt result in developing considerable Japanese emigration to Korea. It now takes seven days to go from Tokyo to Seoul; in the future only fifty-six hours will be necessary. The employees of the railway have been distributed along the line and already form a powerful nucleus of colonization. Furthermore, three large Japanese emigration societies already announce to the public new openings which are offered to colonists, but only the ultimate possession of the country will permit emigration to rise very high.

The question of transportation was evidently the most urgent, but even in other lines a complete programme and plan is already established. The finances will be placed under the control of a Japanese superintendent, who will be charged with the realization of all the necessary financial reforms. Japan will advance the sums of which there shall be need on condition that prior loans be repaid. No other loans can be contracted without the approval of the Japanese minister in Korea. The monetary system will be that of Japan; but, while Japanese money will circulate freely in Korea, Korean money (copper) will disappear from circulation. There will be created at Seoul a central bank to facilitate the regular raising of imposts and the management of the public funds.

A model administration will be instituted as an experiment in one of the provinces of Korea, and if the results of that trial are satisfactory the same system will be extended to all the other provinces. If Korea expresses the desire that Japan watch over her foreign interests and protect her subjects abroad, the Korean ministers and consuls will be recalled, the ministers of foreign nations at Seoul will be

retired at the same time, and there will remain only the cons foreign powers. The Korean army will be reduced from 20,000 its present number, to 1,000 men, and all the garrisons except Seoul will be disbanded. The military system of Korea will be identical with that of Japan, of which it will form an integral part.

CANALS PROJECTED IN PRUSSIA.

(From United States Consul-General Guenther, Frankfort, Germany.)

The committee on canals of the Prussian Diet has reported, in a favorable recommendation, a bill providing for the following construction:

1. A navigable canal between the rivers Rhine and Weser, in connection to Hanover, and the canalization of the River Lippe.

(a) A navigable canal from the Rhine in the vicinity of Ruhr from a more northern point, to the Dortmund-Ems Canal or the v of Herne (Rhine-Herne Canal) inclusive of a branch canal from I to Hamm; estimated cost, 74,500,000 marks (\$17,731,000).

(b) Several additional works on the Dortmund-Ems Canal between Dortmund and Bevergern; estimated cost, 6,150,000 marks (\$1,460,000).

(c) A navigable canal from the Dortmund-Ems Canal in the v of Bevergern to the River Weser, connecting with Hanover; canals to Osnabrück, Minden, and Linden, construction of reservoirs in the upper parts of the River Weser and some regulation works on the Weser below Hameln; estimated cost, 120,500,000 marks (\$28,679,000).

(d) Canalization of the River Lippe or construction of branch of the Lippe from Weser to the Dortmund-Ems Canal, near D and from Hamm to Lippstadt; estimated cost, 44,600,000 marks (\$10,614,800).

(e) Improvement of the cultivation of the soil in connection with the works under items a to d, and the completed Dortmund-Ems Canal; estimated cost 5,000,000 marks (\$1,190,000).

The total estimated cost of the work, items a to e, is placed at 250,750,000 marks (\$59,678,500).

2. The construction of a deep waterway between Berlin and Stettin; estimated cost, 43,000,000 marks (\$10,234,000).

3. Improvement of the waterway between the rivers Oder and Weichsel, also of the River Warthe from the mouth of the Netze to the city of Posen; estimated cost, 21,175,000 marks (\$5,030,000).

4. The canalization of the river Oder from the mouth of the Glatzer Neisse to the city of Breslau, experimental works on the river between Breslau and Fürstenberg on the Oder, construction of several reservoirs; estimated cost, 19,650,000 marks (\$4,676,700).

The entire cost of the projects named is placed at 334,575,000 marks (\$79,628,850).

The construction of these works is to be commenced only if by July 1, 1906, the provinces and municipalities or other political divisions have obligated themselves to pay their share of the cost.

interest thereon, and the deficit which may not be met by tolls. The shares of the cost of construction, and interest thereon, is fixed as follows: Rhine-Herne Canal, 24,300,000 marks (\$5,783,400); interest 3 per cent. Bevergern-Hanover Canal, 37,350,000 marks (\$8,889,300); interest, 1 per cent the first five years, 2 per cent the second five years, and 3 per cent from and after the eleventh year. Branch canals of the Lippe, 14,870,000 marks (\$3,539,060); interest, 3 per cent. Deep waterway Berlin-Stettin, 6,300,000 marks (\$1,499,400); interest same as with the Bevergern-Hanover Canal. Canalization of the river Oder 5,100,000 marks (\$1,213,800); interest same as with the Bevergern-Hanover Canal.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *December 23, 1904.*

TRADE OF NORTH QUEENSLAND.

(*From United States Acting Consular Agent Bronnhill, Townsville, Australia.*)

The imports into the port of Townsville, North Queensland, for the year 1903 amounted to \$3,934,799, as compared with \$4,021,850 in the previous year; the exports were valued at \$11,343,214, as compared with \$10,447,674 in 1902. The largest increase is shown in the exports of wool, which were from \$1,337,625 to \$2,357,575. Of gold the 1903 exports were \$6,530,697, or \$233,062 more than in 1902; meat exports fell from \$1,676,066 to \$1,497,962.

From a commercial point of view the year 1903 is the worst that has been known for a great many years. The rains at the end of 1902 and early in 1903 gave partial relief to the drought-stricken western country and brought about some improvement in conditions, but the previous losses of stock were so great that trade greatly diminished at this port. Many settlers in the west were completely ruined and others staggered under the weight of their burdens.

RAINFALL.

With the end of 1903 fair rains visited the western country, and an improved tone was noticeable. The early rains of 1904 were good, and this fall there have been good rains covering a large part of the western country. It is generally believed that the drought is now completely broken. When rains fall at this time of the year it is considered a happy augury. The returns for 1904 should show a substantial improvement. If we are fortunate enough to get a good wet season at the end of 1904 and early in 1905 exports should advance considerably. The recuperative power of the country is very great, and with reasonable conditions prevailing, in two years from now the country should be on the road to prosperity again.

CANE SUGAR.

The sugar crop on the Lower Burdekin, Herbert, and John rivers and at Mackay is expected to be the heaviest for a number of years. Great anxiety is felt here with regard to the industry. An impression that exists in the minds of the laboring class is that the colored man has deprived the white man of work. The Sugar Planter and Capitalist states that the plantations can not be worked without colored labor. The contention is that the work is too severe and not profitable for the white man. Allowing that he can do the work, the Planter states that the white man will never labor in the cane fields of the Tropics if he can get anything else to do. A conference composed of representatives from the whole of North Queensland is to be held in Townsville soon to consider what is to be done to save the sugar industry from destruction. It is proposed to endeavor to bring about a modification of the labor law as a beginning.

MINING.

The Charters Towers and Croydon gold fields continue to show good returns. The Ravenswood field is being developed, but with the completion of the new Ravenswood Gold Mining Company's property the results have been rather disappointing. However, the field is well prospected, and we may hear good news at any time. Considerable developments have taken place in the Herberton and Karara Hills tin districts. The high price offered for wolfram has caused considerable sale prospecting, and the mineral has been found in fair quantities near as 43 miles from Townsville. Mining for wolfram is likely to prove a permanent industry.

LIVE STOCK FOR MANILA.

There has been a good demand for bullocks for Manila, P. I., and an American firm at Manila is arranging for monthly shipments of live cattle. Ponies 10 to 14 hands high are also wanted—about 500 per month—but there is some doubt if the right kind of animals can be raised in North Queensland.

SHIPPING.

Since the beginning of the Russo-Japanese war we have only a few regular lines of steamers to the East via Manila, the Eastern and Australian Line and the China Navigation Company, which run every two weeks. These steamers, when passing this port, are always fully loaded with passengers and cargo. As it will probably be some time before the Nippon Yusen Kaisha, the Japanese vessels, are running regularly again, it would be a good opportunity for an American line to

from Melbourne to Yokohama via ports. A line of vessels with good passenger accommodation and fair cargo space, with insulated chambers for frozen meat, etc., is what is wanted. As time goes on a large trade will grow up between North Queensland and the East.

RAILWAYS.

Since the last report the western line has been extended to Richmond, a large sheep center, 314 miles from Townsville. There is an agitation now on foot to have the railway carried on to Cloncurry, 250 miles south of Normanton and 520 miles northwest of Townsville. The suggestion is that private enterprise should be invited to carry out the work if the Government is unwilling or unable to do so. Cloncurry is rich in mineral resources, and railway communication will enable these resources to be turned to satisfactory account and will largely benefit this port.

D. J. BROWNHILL, *Acting Consular Agent.*

TOWNSVILLE, NORTH QUEENSLAND, AUSTRALIA,

October 15, 1904.

MOTOR CARS IN SWEDEN.

(From United States Consul Bergh, Gottenborg, Sweden.)

Motor cars have been in use here only about three or four years. The first two or three were small runabouts, of French manufacture, I believe. Later some larger open cars have been bought, resembling surreys or light touring cars. There are now, in all, fourteen motor cars in this city, of different types and of French, Swedish, German, and American manufacture. There are also some motor cycles of German make, or put up here with German motors. I understand that all of the motor cars were bought direct from the manufacturers. Some cars set up and with the tires on have been purchased abroad and brought home by the purchasers.

The roads in this country are fairly good, but can not be considered ideal for automobile travel. They are, as a rule, rather narrow and sloping too much from the middle toward the sides, not to mention steep hills in certain places. The motor cars are mostly used within the city limits, and only occasionally on longer tours. In the southern part of the country the roads may be better, however.

From an American point of view, there are here comparatively few persons rich enough to buy first-class motor cars, regardless of cost. The price will always be an important factor.

The import duty on complete motor cars is 15 per cent ad valorem, including costs, insurance, and freight entering into the dutiable value. The duty on gasoline (benzine) motors is 10 per cent ad valorem, and on electric apparatus 15 per cent.

The price of gasoline (specific gravity, 0.675 to 0.680) is 35 kroner per 100 kilos (\$9.28 per 220.46 pounds). The price of benzine (specific gravity, 0.685 to 0.690) is 32 kroner per 100 kilos (\$8.58 per 220.46 pounds); in smaller quantities 50 to 75 cents more per 220 pounds. When bought in small quantities from the retail stores benzine costs about 16 cents per quart. Private persons are not allowed to buy gasoline or benzine in larger quantities, respectively, than 25 quarts in cities and about 27 quarts in rural districts. By special permission larger quantities may be kept.

As far as motor-car traffic is concerned, Sweden is a field more developed, and the American manufacturers ought to have about the same chances to sell as those of France or Germany. An objection, however, is that the United States is more distant, causing higher transportation costs and longer time in delivery, and European manufacturers can send representatives here easier and cheaper. Motor cars, including heavy motor trucks, are also made in Sweden, but on a small scale.

It will be very difficult to sell here by correspondence and purchase matter alone. The prospective purchasers will undoubtedly want to see and try the cars before they buy. American manufacturers wishing to gain a market in Sweden ought to have active agents in Sweden who could show the cars to customers, and as agents willing to take the responsibility for the introduction of a new article are often men with more capital than the manufacturers ought to give them as liberal terms as possible regarding the sample cars, etc. Private persons here have stated to me that they will not buy before motor cars have been invented which are noiseless and odorless, but they might change their opinions if they were given the opportunity of trying an American motor car, selling at a reasonable price.

ROBERT S. S. BERGH, *Consul General*

GOTTENBORG, SWEDEN, *December 22, 1904.*

COMMERCE BETWEEN FRANCE AND TUNIS

(*From United States Consul Haynes, Rouen, France.*)

M. Chautemps, a French deputy, has recently made a report on a study, relative to the protectorate of France over Tunis. That which seems to strike him most forcibly is the yearly decrease of general commerce between the two countries. While the commerce of France with foreign countries has steadily increased from 34.2 to 41.2 per cent of the total commerce of France, the commerce of France with Tunis has decreased from 1.2 to 0.8 per cent of the total commerce of France.

cent, it has decreased with France from 58 per cent in 1899 to 50.9 per cent in 1902. French imports from Tunis from 1898 to 1902 diminished 15 per cent.

The cause of this is not altogether made clear. Certainly it is not a whim that prompts the importers of Tunis to buy elsewhere than in France, nor is it a lack of patriotism that causes them to sell their goods to foreigners rather than to Frenchmen. "It is not reasonable," says M. Chautemps, "to ask one-third more for goods, because they are French, nor to ask of the seller a reduction of one-third for the pleasure he would have in paying a higher tariff than elsewhere in order to enter his goods into France."

He declares that if the commercial exchanges between France and Tunis are not what they should be it is not the fault of the latter country, but the fault of the French tariff, which is harmful, in certain cases disastrous, and in others absolutely prohibitive. He cites a case: Fish are abundant upon the coasts of Tunis. Besides migratory species, such as sardines, Spanish mackerel, anchovies, etc., many species of fine fish abound, which, if found upon French coasts, are very rare; but these have been taxed 25 francs (\$4.825) per 100 kilograms (220.46 pounds), a tariff so high that not a pound of them ever enters France. "The consequence is," says the report, "that the Italians yearly catch some 2,000,000 to 3,000,000 francs (\$386,000 to \$579,000) worth and carry them into Italy, making a total loss of this amount to Tunis." Further, the species of finer fish which never migrate, the sole, dorado, umbrina, and mullet, are too rare and dear to be preserved by the French. In Tunis, on the contrary, they are excellently and cheaply preserved. But upon these preserved fish, which have no French competition, there is a tariff for entry into France of 25 francs (\$4.825) per 100 kilograms (220.46 pounds). "As a result fish from Tunis are sold elsewhere than in France."

In addition to such artificial barriers Tunis is more advantageously situated geographically for commerce with other countries than with France. Placed in the center of the Mediterranean between the two great Mediterranean basins, half way between the Suez Canal and Gibraltar, it is a "transit port" of Mediterranean commerce, and "when the great cargo boats find at Utique and Tunis coal, freight, free trade, and free facilities, there will be built up an emporium equal in importance to that of Hamburg or Copenhagen."

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *December 22, 1904.*

GOODS EXEMPTED FROM SPECIAL DUTY IN CANADA

(From United States Commercial Agent Beutelspacher, Moncton, New Brunswick.)

The department of customs of the Dominion has issued a list of articles exempt from the special or "antidumping" duty,^a on the basis of decisions of the department have been requested. It reads as follows:

Boiler plate, flange plate, and fire-box plate, for use only in the manufacture of boilers (conditional on the following declaration being subscribed and attested to by the importer on the face of the entry: "The plates above described are boiler plates, flange plate, or fire-box plates, as the case may be, which have been imported in good faith for use only in the manufacture of boilers, and will be used only in the manufacture of boilers"); unmilled rolled-edge bridge plates, when imported by manufacturer of bridges for use only in the manufacture of bridges (conditional declaration being subscribed and attested to accordingly by the importer on the face of the entry); rolled-edge plate not less than one-half inch thick and over 15 feet long when imported, and to be used only for the manufacture of traction engines (conditional on declaration being subscribed and attested to accordingly by the importer on the face of the entry); galvanized sheet iron; guns and rifles, not military; twist drill bits; pin locks; padlocks; steel beams, tees, girders for structural purposes when not punched, drilled, or in any further stage of manufacture; as rolled; pens and pencils; double tape fuses; dictionaries, Encyclopaedia; bicarbonate of soda; rubber brushes; spread plasters; spitting machines; and refiller; vapo-cresoline; peroxide of hydrogen; hydrozone; writing slates.

Customs rulings regarding articles subject to special duty on the basis of decisions of the Department have been requested embrace the following: Air-brake equipment, air pumps; boilers; cranes (electric and steam), cranes (hand power), cranes (water); castings (heavy machine parts); columns; diggers (beaver post hole); fences (hammered iron); fire hydrants (door, bank, etc.); hydrants (for fire purposes); injectors (easy to start); motives; momentum brake; nuts (cold pressed); pumping machinery; pipe (water, gas, and heavy flanged); screws (set, cap, etc.); structural work (including bridges); trucks (street railway, Curtis type street car, etc.); such as tees, ells, etc.), trucks (railway freight); valves; water faucets; insulated wire and cables, incandescent and arc lamp sockets, receptacles, cut-outs, plugs, rosettes, and wiring accessories, cross-arms, switches, porcelain insulators, and cleats, lightning arresters, circuit breakers, meters, transformers, dynamos, and generators, motors, switch boxes; wrought-iron pipe, 3 inches and under; stationary boilers and engines; meat choppers, wire rods; saws; steel billets; hoop iron; steel, 16-gauge and thicker; steel rails; horseshoes, horseshoe nails; steel plate, 50 and less in width, three-fourths and less in thickness, but not thinner than No. 12 gauge; railway fish plates; glazier's putty; steel angles up to 5 by 5; writing ink, typewriter ribbons, carbon copies, carpets; cartridges and ammunition; mucilage; dynamite; electrical wire for blasting purposes; pails and tubs; patent medicine, non-alcoholic beverages; photographic dry plates; soap of all kinds; powder detonators.

^aFor a full understanding of this "antidumping" clause in the Canadian Customs Act, see report from Vice-Consul-General Gorman, of Montreal, in Daily Consular Report, No. 2120, November 30, 1904.

fectionery of all kinds; baking powder; postum cereal, grape nuts, shredded wheat biscuits, and other breakfast foods; almond paste; gun wads; sen-sen; plumbers' earthenware; stove polish; grass mats; linoleum and oilcloth; linseed oil; paper; glass bottles; bon ami scouring soap; card games (such as playing cards, etc.); games (such as parchesi, halma, soldier boy, etc., made of strawboard and cardboard); antiseptic gauze, hermetically sealed tube dressings, absorbent cotton, absorbent lint, antiseptic jute, antiseptic oakum, antiseptic sponges, antiseptic zimocca sponges, antiseptic abdominal sponges, Ashton's abdominal absorbent pads, Ashton's laparotomy set, antiseptic absorbent cotton mops, ligatures and sutures, surgeon's twisted silk, surgeon's braided silk, pure white braided silk, "cable twist," surgeons' silk, Lawson Taite's silk, raw twisted surgeons' silk, plaster of Paris bandages, double or tubular stockinette, gray open woven bandages, unbleached roller bandages, washed and ironed roller bandages, antiseptic gauze absorbing bandages, medicated gauze bandages, heavy crinolin bandages, flannel bandages, rubber bandages, Esmarch's triangular bandages, first aid packets; elastic hosiery, belts, and supporters, elastic stockings; trusses; Tom Thumb jujubes, Sa Yo mint jujubes; indelible ink; licorice pastilles; iodide of potassium; flat iron and steel bars, all sizes up to and including 10 inches in width, and up to $1\frac{1}{2}$ inches in thickness; round steel up to 5 inches in diameter; polished shafting up to 5 inches in diameter; square bars up to 12 inches square; car axles, steel sections, such as plows, beams, channel steel, binder bars, tee bars, cutter bars, small channels, rake teeth, concave and convex sleigh-shoe steel, drill-hoe points, bevel-edge bars, rifle bars, tie plate, special fish plate, angle bars, half rounds, half ovals, toe calk sections, half-round shaft steel, channel sleigh-shoe steel, spring steel, sleigh-shoe steel, tire steel, machine steel, harrow-tooth steel, polished shafting, forging, all kinds of shape work, iron or steel washers; lead pipe wire, all kinds, sizes, and gauges, bale ties, wire nails, sash pins, escutcheon pins, spikes, wrought and wire, all kinds and sizes; bolts, all kinds and sizes; coach screws, lag screws, nuts, washers, rivets, all kinds and sizes; picture-frame points, fellow plates, tacks, all kinds and sizes, including nails, rivets for shoemakers' use; staples, all kinds and sizes; tufting buttons; white lead (ground in oil), putty; shot, all kinds and sizes; refined sugar imported after November 23, 1904 (except sugar refined in a British country granted tariff preference by Canada).

A recent decision of the board of appraisers points out that it is provided in section 67 of the customs act that charges for packing, or for straw, twine, cord, paper, cording, wiring, or cutting, or for any expense incurred or said to have been incurred in the preparation and packing of goods for shipment, shall be included as part of the value for duty. In order that duty may be uniformly assessed on the charges for packing and straw on chinaware, crockery, earthenware, and glassware imported from Europe, it has been declared that one-fourth of the invoice charge for the "packages and straw" or for the "packages" (when no charge appears for the "straw" and "packing") shall form part of the value for duty of chinaware, crockery, earthenware, and glassware so imported. Officers of customs are instructed to make their appraisements accordingly.

GUSTAVE BEUTELSPACHER, *Commercial Agent*,

MONCTON, NEW BRUNSWICK, *January 11, 1905*,

ACADEMY FOR SOCIAL AND COMMERCIAL SCIENCES AT FRANKFORT, GERMANY.

(From Srensk Export, Stockholm, December 1, 1904.)

The first two years of the new high school show (autumn, 1903) a most gratifying development. To the original eight professorships three more have been added, assistant's positions have been established, and the circle of instructors has been extended. The number of matriculated students has arisen from 36 to 121; of these, half attend the commercial branch and half are studying the industrial arts, law, pedagogy, etc. The number of special students and occasional auditors exceeded 500 during the winter term. The average age of the matriculated students was 25 to 26 years. At the close of the fourth term four candidates took the examinations for the commercial degree. The library and collections are being extended constantly.

The courses in economics, jurisprudence, consular business, insurance, statistics, commercial science, modern languages, and technology have also been extended. In 1901 there were 53 lectures and other exercises, comprising 93 hours per week; in the summer of 1903 there were no less than 81 courses of lectures, etc., occupying 138 hours per week, not including chemical laboratory hours.

In the fifth term of the Frankfort academy the number attending rose from 121 to 133, of whom 70 were studying to become merchants, 11 industrials and technicians, 17 jurists and administrative officials; 17 were teachers with seminary training who are preparing to become commercial teachers; 4 were students of modern languages, and 3 represented other branches of learning. Thirty-six students had previously passed an academic examination.

In addition, the academy was attended during the last term by 304 occasional auditors and 215 special students, distributed among the courses preparing for the different occupations as follows: Males—merchants, 138; industrials and technicians, 37; jurists and higher officials, 31; other officials, 13; other learned branches, 12; teachers, 55. Females—teachers, 55; other branches, 5; without special branch, 149. Of the special students 96 had academic training.

The number of lecture courses was 88, occupying 148 hours per week, not including chemical laboratory work from 8 to 6 daily. The number of instructors has risen to 33.

DEVELOPMENT OF THE DEVONPORT DOCKYARD.

(From United States Consul Stephens, Plymouth, England.)

During the past few years rapid progress has been made in developing the Devonport dockyard, and in the next few years other works now in contemplation will make Devonport's claim to be the first naval

port in the Kingdom one that can not be disputed. In the course of the next eighteen months the Keyham dockyard extension works will have been completed, and Devonport will then possess the largest docks and basin in the world. A contract has been let to extend the sea wall at the south end of the dockyard. At present it is impossible for ships drawing any quantity of water to get alongside this jetty at low water, but with the continued extension of the port it has been found necessary to find additional space for coaling battle ships and cruisers, as well as extra space for berthing vessels for other purposes. The present sea wall is to be extended some 60 feet into the sea; it will be about 6 feet above high-water mark, and will be built of concrete. At high tide there will be about 30 feet of water, which will be sufficient for almost the heaviest vessel to float in. It is anticipated that this portion of the yard will be made a coaling depot for the port, in addition to the wharves which have already been acquired by the Admiralty in the Cattewater. The work of dredging has already commenced.

Considerable progress is being made with the new electric power generating station at Keyham, and so far advanced is the work that cables to the various buildings in the Government establishments at Devonport and district are already laid. When the work is completed there is to be a thorough transformation of the motive power of the machinery now used in the yard. The present locomotives will be superseded by electrically worked trains; all the machinery, in fact, will be worked by electricity. A part of the new scheme will be the readjustment of the present scale of working hours. When the electric lighting is established there will be a uniform working week of forty-eight hours.

JOS. G. STEPHENS, *Consul*.

PLYMOUTH, ENGLAND, *December 6, 1904.*

GOVERNMENT RAILROADS IN BADEN.

(*From United States Consul Brittain, Kehl, Germany.*)

PROVIDING FOR THE COMFORT OF EMPLOYEES.

The government of the Grand Duchy of Baden has, within the past year, provided further for the comfort of the employees of its railways. The government now owns 2,936 apartment houses where officials and other employees reside. The train crews have been furnished with sleeping accommodations, when their runs require them to be absent from home overnight, and small cooking stoves, of which there are now in use 230, have been provided where meals may be warmed. At Karlsruhe and Mannheim the government has lunch rooms established where the employees may obtain meals consisting of soup, meat, and

vegetables for 8 cents. The intention is to furnish the meals at cost. At these two restaurants the sale of liquors is forbidden. At Karlsruhe a library, consisting of 1,300 volumes, has been furnished the employees. The restaurants at the various depots throughout Baden are rented to private individuals, but government employees are furnished meals at reduced rates. Some of the restaurants are sources of considerable revenue; for instance the depot restaurant at Heidelberg rents for \$11,900, at Mannheim for \$8,568, and at Offenburg for \$4,760 per annum.

RAILWAY TRAFFIC.

The rolling stock of the government railroads consists of 755 locomotives, 13,517 freight cars, and 3,657 passenger cars, with seating capacity for 162,132 persons. During the year 1903 there were 38,587,254 passengers carried who paid for transportation \$5,616,484, as follows:

Passengers carried and receipts therefrom by government railways of Baden, Germany, 1903.

Class.	Number of passengers.	Receipts.
First	261,186	\$340,631
Second	2,526,043	1,559,600
Third	35,182,621	3,625,409
Soldiers	617,404	90,774
Total	38,587,254	5,616,484

The freight traffic for the past year amounted to 16,922,004 tons; the freight receipts were \$18,896,065, and the expenses \$13,537,078, showing a profit of \$5,358,987.

ACCIDENTS.

Owing to the careful management of the government railways the number of accidents are comparatively few. In the Grand Duchy of Baden, during the past year, there were 23 derailings; 6 on the main lines and 17 at depots. There were 33 persons killed, of whom 23 were employees and 11 passengers; 85 persons were injured, of whom 61 were employees and 24 passengers.

In May last the system of punching the tickets of passengers as they leave and go aboard the trains was established at 29 stations in Baden, and during the 197 days the system has been established \$9,443 have been received from the sale of tickets admitting persons to the platforms where trains arrive. These tickets are procured by placing a 10-pfennig piece (2½ cents) in an automatic slot machine.

Few accidents occur at depots, owing to the fact that the public is not permitted to cross the tracks or walk on or beside them. The

careful guarding of all crossings by substantial gates, which effectually stop persons from walking across the tracks when trains are approaching, also prevents many accidents. The public is well aware that trespassing means punishment, hence chances are not taken as they are in the United States. The roads are generally equipped with steel cross-ties, instead of ties made from timber.

JOSEPH I. BRITAIN, *Consul*.

KEHL, GERMANY, *December 12, 1904.*

TECHNICAL EDUCATION IN FRANCE.

(*From United States Consul Brunot, St. Étienne, France.*)

The prodigious development of the ways of communication and the means of transport provokes ardent competition among nations; commerce becomes more intricate, and people perceive that the intelligent exercise of commercial pursuits necessitates special knowledge in that department; hence the creation of commercial schools.

In the large industries machines have almost completely done away with the old-time apprenticeship; the division of labor has been one of the first consequences of inventions; to-day each man has his special task assigned to him, and the workman who has only served his apprenticeship in the workshop knows generally but one part of the trade, which limits his horizon and hinders his progress in the industrial scale. This fact led to the creation of industrial education, so as to help to produce clever and intelligent workmen.

It is within the last few years, especially, that technical education has developed in France. By the law of 1880 the minister of commerce organized manual instruction in special schools. Ten years afterwards the students graduating from the high commercial schools were exempted from two years of military service out of the usual three years, and by a law of 1891 the National School of Workmen and Foremen of Cluny was created. In the meantime private technical education developed alongside of the official education, and the number of establishments encouraged by and receiving pecuniary help from the Government had risen from 48 in 1880 to 292 in 1904. This number will further increase, because the labor associations are turning their attention more and more to industrial education.

NATIONAL INSTITUTE OF ARTS AND TRADES.

The National Institute of Arts and Trades (*Conservatoire National des Arts et Métiers*), in the center of Paris, dates as far back as 1775, when a small hotel was leased to "receive a collection of machines, instruments, and tools for the education of the workingman." This

small beginning has grown into one of the finest monuments in the capital. Here are found all kinds of ancient and modern machinery, elaborate laboratories for the study of physical sciences, while lectures on art as applied to trades and industries are given by competent professors. Each trade is furnished with mechanical instruments and apparatuses of all kinds necessary to the proper study of the subjects of physics, chemistry, chemistry applied to the dyeing industry, ceramics, glass making and decoration on glass, and metallurgy.

CENTRAL SCHOOL OF ARTS AND MANUFACTURES.

The present school (*Ecole Centrale des Arts et Manufactures*) was built in 1884 at a cost of over \$2,000,000. The fees are 900 francs (\$173) for the first year, and 1,000 francs (\$193) for each of the two succeeding years. The number of students last year was a little over 200. Admission is by means of competitive examination. The number of students received each year is limited to 240. Foreign students are admitted on the same terms as the home students, and receive the same diploma at the end of the course. French students who are considered apt for military service receive, in addition, complete military instruction. They pass four years in the school, and have only to give one year's service on leaving the institution. Only day students are received, but they spend the whole day from half past 8 in the morning until 6 in the evenings at the school, even dining there. Examinations are held weekly, at the close of every session, and at the end of the course, when the successful candidates receive the diplomas of engineers.

The curriculum is as follows: First year, mathematical analysis, general mechanics, descriptive geometry, general physics, thermodynamics, general chemistry, geology, and mineralogy; second year, architecture, natural sciences, metallic constructions, constructions of machines, physics appertaining to industries, electricity, mines, public works, railways, legislation for industries; third year, applied mechanics and construction of machines (agricultural).

HIGH SCHOOL OF COMMERCE.

In this school, as well as others in the provinces, the teaching has for its object the study of arts and sciences with a view to their application to commerce. Founded in 1820, this institution, after many vicissitudes during the troublous periods of the last century, has become an important factor in the education of young men embracing commercial careers.

Entry to the school is by competitive examination, to which foreign students are admitted. The directors can admit pupils specially authorized without such examination. They are not given, however, diplo-

mas at the end of the course. To compete, candidates must be under 16 years of age, and they must furnish certificates of respectability.

The course lasts two years. At the end of the first year the students take an oral examination before a special jury on the subjects gone through, and those who do not obtain at least half the number of marks attainable are not allowed to enter on the second year. They can, if they so desire, recommence the first-year course. Students are expelled for persistent inefficiency or grave breaches of discipline. At the end of the second year the students take the final examination, and those who obtain 65 per cent are given diplomas and those who obtain 55 per cent, certificates.

The programme is as follows: Commerce and bookkeeping, mathematics relating to finances, geometry, foreign languages (English, German, or Spanish), commercial legislation, political economy, fiscal legislation, commercial history, chemistry applied to industries, merchandise, technology, applied physics, mechanics, the French language, stenography, and calligraphy. The school receives only boarders or half boarders, and the fees are 2,000 francs (\$386) and 1,000 francs (\$193) a year, respectively.

HIGH COMMERCIAL SCHOOL.

This institution is somewhat similar to the high school of commerce, but the instruction is more advanced. It receives day students as well as boarders. The latter pay 2,800 francs (\$540) a year, while the fee for the day pupils is 1,000 francs (\$193). As in the high school of commerce, the entry is through competitive examination. The number of students last year was 383.

SCHOOL OF ARTS AND TRADES.

The origin of the National School of Arts and Trades goes back to 1788, when the first establishment was founded at Compiègne. Many years afterwards three others were opened, one at Chalons sur Marne, one at Angers, and one at Aix (Bouches du Rhone). In 1881 a fourth was established at Lille. These schools educate workmen capable of becoming foremen in industries and well versed in the practice of mechanical arts. Manual labor in the workshops characterizes the teaching. Boarders alone are received, and the number is limited to 300 for each school.

Admission is by examination, and the candidates must be French and not under 15 nor over 17 years of age. The entrance examination is on the following subjects: A page of writing, dictation, French composition, design, two problems in arithmetic and one in algebra, two problems in geometry, a composition on physics and chemistry, and an experiment in manual labor.

The practical instruction is given in four special workshops, and includes fitting, cabinetmaking and modeling, foundry work, and hardware manufacture. About 70 per cent of the pupils are sent to the fitting shop; the remainder are scattered among the other workshops, but all, during the three years, learn something in each department.

At the end of the first and second years the pupils take examinations, and of the twenty marks given, the student must obtain at least eleven in order to be allowed to pass to another year. At the end of the third year a diploma is given under the same conditions. Where the pupil in the final examination obtains fifteen marks he is awarded a silver medal; if over that, a gold medal.

NATIONAL SCHOOL OF WORKMEN AND FOREMEN, CLUNY.

This school was established in 1891 to educate high-class workmen with a view to their becoming foremen in the wood and iron industries. The fee is \$100 a year. The entrance examination subjects consist of writing, French, the four rules of arithmetic, and elements of geometry, physics, and chemistry. The instruction given is theoretical and practical. The theoretical part comprises arithmetic, progressions, elements of logarithms, elementary geometry, algebra, and trigonometry, the study of the laws of motion, transformation of movement in machinery, elementary notions of industrial mechanics, description of the principal parts of machines and apparatuses employed in industries, detailed description of steam machinery and of hydraulic motors, etc. The practical part is given in workshops similar to those in use in the National School of Arts and Trades.

Only boarders are received at this school, and the number can not exceed 300. The course extends over three years. A diploma is given to those who pass the final examination.

NATIONAL SCHOOL OF WATCHMAKING, CLUSES.

Watchmaking was established as an industry at the little town of Cluses, in the department of Haute Savoie, in 1715. It made rapid progress and gave employment to two-thirds of the inhabitants of that picturesque locality. In 1791 the question of creating special instruction in the industry was examined, but no practical solution was arrived at. The industry continued to prosper, nevertheless, until 1844, when a conflagration destroyed the greater part of the town and dispersed the inhabitants. A few months afterwards, the municipal council adopted a project of founding a school for watchmaking. The Sardinian government, to which the department of the Savoie then belonged, desirous of encouraging the idea, invited the director of the royal factory at Versailles to study the project and draw up a report on it. In a short time the school was opened with the title of Royal School of Watchmaking, and 24 pupils were admitted—12 boys and 12 girls.

In 1860, when the department was ceded to France, the school was in full working order. Of the 295 pupils who had been taught in it, several had become very clever artists. At this period girls were no longer admitted. The boys had their general knowledge tested by an examination on writing, reading, orthography, the four rules of arithmetic, and notions of the metric system.

The old building becoming inadequate to the large number of pupils, it was decided to build a new one on more modern principles, and in 1886 the institution was inaugurated. The number of students, who are all-day pupils, is not limited and the teaching is free. The practical instruction is very complete.

Since the annexation of the department to France 1,200 young men have passed through the school; of this number 85 per cent have followed the trade of watchmaking. The annual expenses of the National School of Watchmaking amount to 58,000 francs (\$11,367), and are borne by the State. A similar school is established at Besançon, in the department of the Doubs, but it is not as successful or as popular as that of Cluses.

PROFESSIONAL SCHOOLS.

Among the numerous laws which for the past twenty-five years treat of reform and organization of primary education, one of the first (1880) was that on manual apprenticeship schools where young boys should receive special instructions in the industry of their choice, or to prepare them for the secondary technical schools of the country at Aix, Chalons sur Marne, Angers, and Lille. As soon as the law received sanction, the Government began to organize a model school which should serve as a type for similar institutions that might be created afterwards. The locality chosen was Vierzon, near Paris, and in a few years three other national schools were opened in different districts. Finally the departments awakened to the necessity of having similar schools.

The teaching in these schools is free. Boys can enter at the age of 13, provided they have obtained certificates of primary education. The professors are appointed by the administration for the different subjects taught. A description of the professional school at St. Étienne will suffice for all, especially as it is considered one of the best in France.

The industrial school of St. Étienne was opened in 1882 with 54 pupils and 4 foremen, to teach the trades of weaving, modeling in wood, fitting, and cabinetmaking. Three years subsequently the building was found insufficient and it was decided to construct a new school of much larger dimensions and furnished with all the latest machinery for instruction in the many industries taught in the establishment.

The new school comprises ten class rooms large enough to hold 60 pupils each, an amphitheater with 150 seats, a chemical laboratory for

the study of physics, another for electricity, a sculpture room with models, a library, and a museum. A contiguous building contains the different workshops with their accessories (forge with 8 anvils, cabinet-making tools, machines, etc., mechanical workshop, weaving, dyeing, modeling, gun-making shop, etc.). A 35-horsepower engine drives all the machines in the workshops, while a dynamo of 20 kilowatts furnishes the light to the establishment. The school possesses also important collections of physical apparatus, utensils, chemical products, and natural history specimens.

The personnel comprises one director or superintendent, ten professors, twelve foremen of the workshops, and one mechanical engineer. The course of study lasts four years, of which the first is preparatory. In this year the pupil completes his primary education; he is made familiar with the different workshops, and by the end of the year his aptitude for any special branch is discovered. When he enters for the second year he is classed. The instruction is general and industrial. The former comprises studies in French, history, geography, hygiene, English, bookkeeping, and geometry. The practical part includes the study of textile fibers (hemp, linen thread, ramie, cotton, and wool); the rearing of silkworms, treatment of cocoons, silk spinning, the principal threads used, with their qualities and defects; notions on the bleaching and dyeing of cotton and silk, with the different physical and chemical manipulations that these threads have to undergo before being employed; and practical exercises on the weaving machines, of which, one, I may add, is American.

At the end of the four years the ribbon industry will have no secrets for an intelligent pupil. The excellent reputation gained by the school in this branch has attracted strangers from several countries. Swiss, German, and even American students have attended the classes. Another branch receiving particular attention is that of electricity, which many pupils choose to study, as good situations await them upon graduation. Gun making has been recently introduced, as forming one of the chief industries of the town. The pupils are led through all the stages, from the crude steel to the highly finished article. The number of pupils attending this year is 450, while nearly 200 more are waiting for admission.

The foregoing gives but an outline of what is done in France for technical education. The schools may be classified as follows: Conservatoire National des Arts et Métiers; École Centrale des Arts et Manufactures; Écoles Supérieures de Commerce (State) (Paris, Lyon, Marseille, Bordeaux, Rouen, Lille, Nancy, and Montpellier, 8); École des Hautes Études Commerciales; Institut Commercial; École Nationale d'Arts et Métiers (Châlons sur Marne, Angers, Aix, and Lille, 4); École Nationale de Contremaîtres de Cluny; École Nationale d'Horlogerie (Cluses and Besançon, 2); Écoles Nationales Professionnelles (Armentières, Nantes, Vierzon, and Voiron, 4); Écoles Pratiques de

Commerce et d'Industrie, for boys (Agen, Béziers, Boulogne-sur-Mer, Brest, Cette, Firminy, Fourmies, Grenoble, Havre, Lille, Limoges, Mans, Marseille, Reims, Rennes, Romans, Rouen, St. Chamond, St. Didier, Mazamet, Monthéliard, Morez, Narbonne, Mure, Pont-de-Beauvoisin, St. Étienne, 26); École Pratique de Commerce et d'Industrie, for girls (Boulogne-sur-Mer, Havre, Marseille, Nantes, Rouen, and St. Étienne, 6).

In addition to the foregoing the municipal bodies of towns of any importance have opened professional schools for the elementary teaching of trades, industries, or arts (design, weaving, lace making, dress-making, dyeing, electricity, bookkeeping, and stenography). There are also numerous private schools and societies for the improvement of the artisan which are well attended.

HILARY S. BRUNOT, *Consul*.

ST. ETIENNE, FRANCE, *December 30, 1904.*

STANDARD SCREW.

(From *United States Consul Hamm, Hull, England.*)

The need of a standard screw in the more delicate branches of engineering has long been acknowledged by the profession. This lack has been especially evident in optics and gunnery; but the difficulties in the way of obtaining such a standard have been just as evident. The British war office seems to have overcome most if not all these difficulties, and to have succeeded in constructing one which it is claimed will stand every test.

Recognizing the importance of having a standard screw in gun fittings and mountings, the war office was led, four years ago, to appoint a committee of experts to investigate the subject and devise means for the production of the article wanted. The result of the labors of this committee can now be seen in the new standard screw-cutting lathe just set up at the National Physical Laboratory at Bushy House, London.

It became clear at an early stage of the investigation that to secure interchangeability in screws it was necessary to supply accurate standard leading screws from which the screws could be cut and to construct a special lathe on which these leading screws could be adjusted and measured. The standard screw now in Bushy House is made of compressed steel and is some 6 feet in length. The lathe to which it is attached exceeds 20 feet in length, and as it works to so fine a degree of accuracy as to correct an error of one ten-thousandth part of an inch, every precaution has been taken to protect it from the vagaries of temperature by housing it in a special building heated to a constant temperature of 60 degrees. The lathe differs in construction very greatly from ordinary lathes. The leading screw and the screw

to be cut are coaxial. No gear wheels are employed, and there are means for automatically correcting even the most trifling errors of the leading screw.

The lathe room, which is air-tight except for the ventilation afforded by inlets and outlets, is completely surrounded by an outer shell, and is provided with a glazed roof, while a glazed partition at one side enables observations to be made from the outside of the room. To prevent vibration, the lathe has been fixed on a foundation consisting of 20 tons of concrete covered with 6 inches of cork stone. The power is supplied by a 5-horsepower motor, and arrangements are made for driving the lathe mandrel direct from the outside of the room. In this way the presence of anyone within the lathe room can be dispensed with for considerable periods at a time, and the machine with its automatic corrector can, under vigilant but unobtrusive supervision from without, be safely left to perform its allotted task with perfect fidelity and with such marvelous precision as almost to render the copy more perfect than the original.

For scientific purposes a screw must be so accurately cut and its axis so true that it will move forward in its nut exactly the same distance for each rotation around its axis. If the axis of a screw is straight it will run true at every point. It is said not to be difficult to produce a screw a foot or a yard long with errors not exceeding one one-thousandth part of an inch. Machines have been invented the errors of which, it is claimed, do not exceed one one-hundred-thousandth part of an inch at any one point. But the results have seldom been satisfactory. To secure the highest accuracy it has been necessary to resort to grinding.

If the lathe now at Bushy House produces a standard screw which will bear the test, one of the most difficult problems in engineering will have been solved. Every engineer will be relieved of an embarrassment he has had to encounter. A public test has not yet been made at Bushy House, but when that is had engineers in all parts of the world will watch for the result with intense interest.

WALTER C. HAMM, *Consul*.

HULL, ENGLAND, *January 4, 1905.*

DEVELOPMENT OF KOREA'S RESOURCES.

(*From United States Consul-General Paddock, Seoul, Korea.*)

The largest American enterprises in Korea at the present time are the Oriental Consolidated Mining Company and the American Korean Electric Company. The former, operating on concession a district some 500 square miles in extent in northwest Korea, has been described

as the largest development undertaking in Asia. It employs about 70 white men and several thousand Asiatics, and operates 5 mills on its concession, with a total of 200 stamps. In 1903 it mined and milled 203,567 tons of ore, valued at \$1,478,956, and had in sight on December 31 ore to the value of over \$6,000,000. It has now about completed a large dam for a reservoir to furnish water power for an electric plant, by which its mills will be run. This plant is to cost completed some \$200,000.

In this connection the following figures, giving the export of gold from Korea to foreign countries for the past ten years, is of interest: 1894, \$465,169; 1895, \$673,758; 1896, \$692,425; 1897, \$1,012,971; 1898, \$1,183,111; 1899, \$1,460,824; 1900, \$1,809,258; 1901, \$2,486,688; 1902, \$2,521,925, and 1903, \$2,717,285. These figures do not include a considerable quantity of gold mined by natives but not exported through the treaty ports. Other foreign mining concessions are operated in Korea by British, German, and Japanese companies, but have thus far proved by no means so successful as that of the American company. Considerable deposits of gold have recently been discovered a short distance from the city of Pyengyang, in the northwest, and it is reported that 25,000 Koreans are now in that region engaged in placer mining. It is doubtful, however, if the deposits in that locality will hold out very long, and the returns to each individual miner can not be very great. In 1903 mining supplies to the value of \$212,964 were imported—about the same amount as in 1902, and an increase over 1901; a considerable proportion of these were American goods for the American mines.

The American-Korean Electric Company, which began operations in 1899 under the title of the Seoul Electric Company, has recently been reorganized and incorporated under its present name, with a capitalization of \$1,000,000, under the laws of Connecticut. It holds an exclusive franchise for operating electric street railways, telephones, lighting, and power plants in Seoul, and is the only concern at present that has an electric light and power plant in Korea. It now runs some 25 cars over 11.2 miles of track in and about the city of Seoul and furnishes some 5,000 electric lights. Its entire electrical equipment is of American manufacture and of the latest and most approved type. This company has been so successful that it is about to add 6 miles of track to its line and contemplates the purchase of 15 to 20 new cars. It will also add to its power-house installation two generating sets of 250 kilowatts capacity each, connected to two 400-horsepower cross-compound engines.

A company organized in America, with a capital of \$1,000,000, holds a franchise, granted originally in 1898, for the construction of a waterworks system for the city of Seoul. Construction work will be commenced in the coming spring. This would seem to be a very

necessary adjunct to a city of some 300,000 inhabitants, which is constantly growing and becoming modernized, and which at present has to rely only on such water, of very limited quantity and doubtful quality, as can be obtained from shallow wells. In the past three years there have been numerous serious fires at Seoul, the last only recently, when the imperial palace was almost totally destroyed; these might all have been readily controlled had there been an adequate water supply. The water for the new system is to be taken by centrifugal pumps from the Han River (a large stream about 3 miles from the city), some 5 miles above the city. After passing a system of filtration, known as the American system of rapid mechanical filtration, the water will be pumped to the city by two high-duty triple-expansion pumping engines, each of a capacity of 5,000,000 gallons per twenty-four hours. The system of piping for distribution is to consist of 54 miles of cast-iron pipe, of from 4 to 24 inches diameter, and a large number of fire and domestic iron hydrants. Pressure in the pipes is to be maintained, besides the pumps, by a soft steel stand-pipe located near the city. This is a work of considerable magnitude, the engineering investigations for which have covered a period of several years. The equipment will, of course, be of American manufacture.

Next to the Japanese, who with a population in the treaty ports alone of over 21,000 in 1903 far exceed all others, and the Chinese numbering about 2,000, Americans in Korea outnumber any other foreign nationality. According to the last enumeration there were some 241 Americans residing throughout Korea, of whom about two-thirds are missionaries, principally of the Presbyterian and Methodist churches. The establishments of the missionaries in Seoul and Pyengyang are particularly worthy of note, and, though perhaps not strictly within the scope of a trade report, mention may well be made of the large, well-equipped, modern hospital recently opened in Seoul under the auspices of the Presbyterian mission, the gift of a charitable American for the benefit of the Korean people.

GORDON PADDOCK, *Consul-General*.

SEOUL, KOREA, *November 4, 1904.*

GRAND TRUNK PACIFIC RAILWAY.

(From United States Consul Gunsaulus, Toronto, Canada.)

Great interest has been manifested on both sides of the border concerning the proposed Grand Trunk Pacific Railway, which, entirely within Canadian territory, is to traverse the continent from ocean to ocean and which, when completed, will be one of the great railways of the world, second in extent only to the Russia-Siberia line.

The following account, from a recent number of the Canadian Manufacturer, gives a fair and impartial view of the vast project:

The proposed railway is to run from some port, not yet selected, on the Pacific coast to Moncton, the headquarters of the Intercolonial Railway. From Moncton four sections of that road radiate in as many different directions, namely, to Sydney and Halifax, in Nova Scotia, to St. John, in New Brunswick, and to Montreal, in Quebec. It would be a waste of outlay to carry the transcontinental line beyond Moncton. The main line is divided at Winnipeg into two divisions—the eastern between Winnipeg and Moncton, the western between Winnipeg and the Pacific. In spite of this subdivision the road is to be operated as a whole. It is intended that branches shall be sent out at many points from the main line, two of the more important being projected to the head of Lake Superior and to Hudson Bay, respectively. These, however, form no part of the scheme as aided in different ways by Parliament. It is expected that by means of low grades, easy curves, good track, and improved rolling stock the transcontinental railway will be able to carry grain from the Rocky Mountains to Atlantic ports in competition with the part rail and part water routes. The standard of the eastern division will be as high as the government's chief engineer and the Grand Trunk Pacific's chief engineer can agree in raising it; the standard of the western division is to equal that of the Grand Trunk Railway between Toronto and Montreal.

This gigantic work has been undertaken on the joint credit of the Dominion government, the Grand Trunk Railway Company, and the Grand Trunk Pacific Railway Company. The last named corporation is to construct the western division and to operate the whole line after it is completed.

The eastern division is to be constructed by the Dominion government through the medium of a commission which was organized some weeks ago and is already at work. The whole cost of constructing the division is to be met by the government, as the cost of other public works is met, either by borrowing the necessary capital or by taking it out of surplus revenue. After it is completed it will be taken over and operated by the Grand Pacific Railway Company, which will pay yearly 3 per cent on the cost of construction for the privilege. It is expected that the money to construct the line will be obtained by the government at the same rate, so that the country will, for all practical purposes, be financing that part of the road without either loss or gain. At the end of the lease, which runs for fifty years, the government will own the whole eastern division.

The length of the eastern division is estimated at 1,875 miles, and the estimates of cost vary from \$31,250 to \$40,000 per mile. The former of these sums is the estimate of Mr. Fielding, the minister of finance; the latter is the estimate of Mr. Borden, the leader of the opposition. It is impossible at present to decide which of these is the more correct, but this becomes a matter of minor importance in view of the fact that the railway company pays yearly 3 per cent on the cost of construction, whatever that may be. As the company is interested in keeping down the capital expenditure, and the government is equally interested in doing so, this feature of the contract may fairly be described as the most ingenious provision imaginable to secure the greatest possible efficiency at the least possible cost.

The length of the western division is estimated at 1,480 miles, of which 1,000 miles are across the prairie and 480 miles are through the mountains of British Columbia. For these two sections the government guarantees the bonds of the Grand Trunk Pacific Company to three-fourths of the cost of the mountain section without limit, and to three-fourths of the cost of the prairie section within the limit of \$13,000 a mile. It is estimated that the guaranty on the mountain section will not exceed \$21,221,052, and on this part of the cost the government is to pay for seven years the interest it guarantees. The railway company pays from the start the interest on the prairie section.

For the first seven years after the completion of the eastern division the railway company has the privilege of operating it without paying any rental. This period of seven years may be extended to ten if the traffic of the road is not sufficient to enable it to earn the required 3 per cent; but in that event the arrears are to be added to the capital sum representing the cost of construction. This cost of construction is to include the capitalized interest on the outlay during the years of construction, which thus becomes part of the amount on which 3 per cent is to be paid. The finance minister, in the course of debate on the agreement of 1903 and the amended agreement of 1904, gave the House of Commons a statement showing that in order to meet the seven years' interest on the mountain section of the western division and the seven years' rental of the eastern division, it would suffice to set apart now the sum of \$14,000,000, and these are the only financial aids given to the company by the Dominion Parliament. The whole line is to be constructed and operated without either mileage subsidy or land grant. In other words, if the surplus revenues of the last financial year were invested it would at the end of the seven years above mentioned more than meet all the payments to be made by the government on account of the obligations it has incurred under the contract.

The objects of the undertaking are many, but four may here be specified as peculiarly important. The first is to have a transcontinental railway through Canadian territory, from ocean to ocean, so that in dealing with the United States in regard to international trade arrangements Canada may not find herself handicapped by the want of a through route of her own. The second is to provide another transcontinental railway, not merely to supply increased transportation facilities to meet the needs of expanding settlement, but to secure effective competition between the Canadian Pacific Railway, which is comparatively independent of all control in the matter of rates, and a new railway which will be completely under the control of the railway commission. The third is to promote settlement in northern British Columbia, across the comparatively uninhabited part of the Northwest Territory and Manitoba, in northern Ontario and Quebec, and through the central part of New Brunswick. The fourth is to make this an important part of a new traffic route from western Europe to eastern Asia, equipped with both trans-Atlantic and trans-Pacific steamships. The project, as developed in the agreement between the Dominion government and the Grand Trunk Pacific Railway Company is admirably adapted to secure all these ends. It will give an absolutely all-Canadian traffic route, it will create a strong business rival to the Canadian Pacific, it will practically double the width of the Dominion by carrying settlement in Ontario and Quebec over the height of land and far toward Hudson Bay, and it will

eventually lead to the establishment of another Pacific trade route to rival those passing through San Francisco and Vancouver. Incidentally, by securing the expenditure of a large amount of capital annually for some years to come, it will help materially in tiding Canada over the period of commercial and industrial depression which has already begun to make itself felt in the United States.

Under the agreement between the Dominion government and the Grand Trunk Pacific Railway Company, the latter admits that the aid given by the government is for the express purpose of encouraging the development of Canadian trade and the transportation of goods through Canadian channels. The company "accepts the aid on these conditions, and agrees that all freight originating on the line of the railway or its branches, not specifically routed otherwise by the shipper, shall, when destined for points in Canada, be carried entirely on Canadian territory or between Canadian inland ports;" that "all such traffic not specifically routed otherwise shall be carried through Canadian ocean ports," and that "the through rate on export traffic from the point of origin to the point of destination shall at no time be greater by way of Canadian than by way of United States ports."

The company further "agrees that it shall not, in any matter within its power, directly or indirectly, advise or encourage the transportation of such freight by routes other than those above provided, but shall in all respects in good faith use its utmost endeavors to fulfill the conditions upon which public aid is granted, namely, the development of trade through Canadian channels and Canadian ocean ports." By the contract the company is bound also to "provide shipping connections on both the Atlantic and Pacific oceans" adequate to "take care of and transport all this traffic, both inward and outward, at such ocean ports within Canada" as may be agreed upon from time to time. Lastly, the company agrees that it will not "divert, or, so far as it can lawfully prevent, permit to be diverted, to ports outside of Canada any traffic which it can lawfully influence or control, upon the ground that there is not a sufficient amount of shipping to transport such traffic from or to such Canadian ocean ports." In other words, the company, if not required to use the ports of Quebec, St. John, Halifax, or Sydney for ocean traffic, is bound to provide shipping for the purpose, and not to refuse the traffic because the shipping is insufficient.

There is ample means provided for the enforcement of these stipulations. Both the Grand Trunk Pacific Company and the Grand Trunk Company come under the jurisdiction of the railway commission, and in the last resort Parliament, which enacts the agreement, can say whether or not the company is living up to it.

The national transcontinental railway legislation of 1903 had the appearance of having been sprung on Parliament and the country, but a slight acquaintance with the situation will serve to show that this is a delusion. Several occurrences led up to this outcome. One was the application of the Grand Trunk Pacific Company for a charter to build a railway from North Bay to the Pacific Ocean on condition of receiving a large amount of government aid in money or land; another was the application of the Trans-Canada Railway Company for a charter to construct a railway from the Pacific Ocean to the lower St. Lawrence on a similar condition. Neither offer was accepted by the government, which had announced its determination to give no more land subsidies. The course of parliamentary discussion showed that in order to make

the railway really transcontinental it would be necessary to bring the line into as close connection as possible with the Canada-Atlantic ports, and the present scheme is the outcome of the resulting negotiations. As adopted by Parliament in 1903 it was not acceptable in all respects to the Grand Trunk shareholders, who had to take the responsibility of guaranteeing the bonds of the Grand Trunk Pacific Company to an indefinite extent, and some amendments were made in it during the session of 1904. These did not affect the main features of the scheme, which remain as they were under the previous legislation. They may with absolute accuracy be thus summarized:

1. The Grand Pacific Company finds all the capital and does all the work of construction for the part of the Transcontinental Railway west of Winnipeg.

2. The government guarantees the interest on the company's bonds to the amount of three-fourths of the cost of the western division, with a limitation on the prairie section to \$13,000 a mile, and it pays for seven years the interest it guarantees on the mountain section.

3. The government constructs, at its own expense, the part of the line east of Winnipeg, but it leases it to the Grand Trunk Pacific Company at a yearly rental of 3 per cent on the cost of construction. As the money to build the road is to be borrowed at 3 per cent by the government, and as the latter will own the eastern division at the end of the company's tenure of it, the transaction is not merely safe for the government, but indirectly profitable for the country, which it will so greatly aid in developing.

E. N. GUNSAULUS, *Consul.*

TORONTO, CANADA, *January 11, 1905.*

YUKON TERRITORY.

(From United States Commercial Agent Beutelspacher, Moncton, New Brunswick.)

IMPORTS AND EXPORTS.

The total trade of the Yukon territory for the calendar year 1903, as shown by the customs returns at the ports of Dawson and White Horse, amounted in value to \$12,509,894—imports representing \$1,698,883 and exports \$10,811,211. Of the exports, \$10,324,720 represent gold dust, and but \$486,491 merchandise. Exports to the value of \$10,603,551 were invoiced through the consulate at Dawson City for the United States and Alaska, as follows: American goods, \$184,684; American gold dust, \$120,656; total American exports, \$305,340; Canadian goods, \$94,147; Canadian gold dust, \$10,204,064; total Canadian exports, \$10,298,211. With the exception of the gold dust, which went to the assay offices at Seattle and San Francisco, all the American and Canadian goods were shipped down the river to Eagle, Fairbanks, and other towns in Alaska on the Yukon River.

Of the imports, mostly general merchandise, groceries, and machinery, the greater part was from the United States and found its way

into Alaska to the growing camps in the Tanana district. A detailed statement of the imports and exports would convey no useful information to dealers and manufacturers in the United States nor aid them in extending trade with this section of Canada, as all purchases are made by importers directly or through the many excellent commercial houses at Dawson, which are mostly American, and in some cases have large capital invested, amounting in one instance to \$7,000,000.

AREA AND GOLD PRODUCTION.

The Yukon Territory, which prior to 1898 formed a part of the Northwest Territory, has an area of 196,976 square miles, 196,327 being land and 649 water. The population is estimated at 12,000, of whom 7,200 are Americans. It is purely a mineral country, and has produced since 1885, when the output of gold was first recorded, to the end of 1903, \$97,063,500 in gold. During the same period the gold mined in the rest of Canada was as follows: Saskatchewan district, \$292,946; Province of Ontario, \$2,086,393; Province of Quebec, \$103,940; Province of British Columbia, \$40,545,398; Nova Scotia, \$9,318,984; a total of \$52,347,661. The production of the Yukon Territory thus exceeded that of the rest of Canada, since 1885, by \$44,715,839. In the most prosperous years for the Yukon, those from 1898 to the present, the production of gold has been as follows: 1898, \$10,000,000; 1899, \$16,000,000; 1900, \$22,275,000; 1901, \$18,000,000; 1902, \$14,500,000; 1903, \$12,250,000; a total in six years of \$93,025,000. It is interesting to note that \$65,046,178 of this was sent to the assay offices at Seattle and San Francisco.

TRANSPORTATION ROUTES.

Dawson, the capital of the Yukon territory and the residential and commercial center of what is commonly known as the Klondike, has a population of 3,500 persons of various nationalities, the Americans, with 2,450, forming 70 per cent of the total. The city is easily reached during the season of navigation (from about May 15 to October 10) in seven to nine days from Seattle, Wash., or Vancouver, British Columbia, by three lines of steamers to Skagway, Alaska (three to four days), where connection is made by rail to White Horse (one day), the head of navigation on the Yukon River. From White Horse the White Pass Line runs comfortable boats to Dawson in from three to four days. This company operates, between White Horse and Dawson, 12 vessels and 5 barges, with a capacity of 3,500 tons. During the season of 1904 it handled 22,447 tons of freight and carried 4,932 passengers. Passenger rates from Seattle to Dawson are \$80 first class and \$65 second class. Freight rates from Seattle to Dawson by the carload are \$3 to \$4.25 per 100 pounds. Commodity rates from the

Pacific coast points during midsummer are \$2.37 per 100 pounds. From Dawson the rates to Eagle, Chena or Fairbanks, and Fort Gibbon, Alaska, are, per ton, \$10, \$70, and \$40, respectively. The White Pass rail division between Skagway and White Horse, 111 miles, operates daily passenger and freight service, with a capacity of at least 5,000 tons a day. This company is under the Canadian flag, but American capital is largely invested in it.

There is a second though much longer route, taking twenty-three days from Seattle to Dawson by way of St. Michael, Alaska. Two steamboat lines run on the lower Yukon River between St. Michael and Dawson—the Northern Commercial Company and the North American Transportation and Trading Company. The former operates 22 steamers and barges, with a total net tonnage of 7,851 tons, and the latter 9 steamers and barges, with a total gross tonnage of 6,083 tons. The passenger rates by these two lines is \$125 from Seattle to Dawson, and the average rate per ton on freight is \$60. Besides the boats of the above companies there are 11 independent steamers, American and Canadian, plying between White Horse and Dawson and points in Alaska on the Yukon River. Some of these have comfortable accommodations for passengers.

POSTAL RATES.

Postal rates from the Yukon territory are the same as from other points in the Dominion of Canada. From October to May, however, the closed season of navigation, only first-class matter and single copies of newspapers are brought (by stage) by the postal authorities to Dawson. Other mail matter will, if requested, be forwarded by express on the stage, the charge to be paid by the consignee.

CUSTOMS REGULATIONS.

Attention is particularly called to certain new features in the customs regulations and laws of Canada. I can not too strongly urge upon American manufacturers and exporters a careful and strict observance of these regulations. A slight infringement may result in serious delay, which may cause a loss to the importer. Because of the shortness of the season of navigation (from May 15 to October 1st) and the irregular departure of steamers, the conditions of transportation here are entirely different from those in the southern and eastern provinces of the Dominion.

GUSTAVE BEUTELSPACHER, *Commercial Agent.*

MONCTON, NEW BRUNSWICK, *January 12, 1905.*

COTTON CULTURE IN INDIA.

(From C. E. Fee, clerk at the United States consulate, Bombay, India.)

The Province of Sind, situated north of Bombay, between the districts of Gujerat and the Punjab, has lately been the ground of experiments by the Bombay government in the cultivation of long-staple cotton. It seems that very fair success has attended the trials. The following account has been obtained from various reports and observations. The movement had its origin with government officials; the deputy director of agriculture, Mr. Fletcher, who has had considerable experience with Egyptian cotton, was detailed for the experiments.

There have been many attempts to grow Egyptian cotton in India, but they have generally failed. Sometimes the soil was unsuitable, but more often the failure was due to the fact that little effort was made to imitate Egyptian methods for growing the staple, and almost invariably the cotton was sown too late. But it has at last come to be recognized that if ever Egyptian cotton is to be grown in India the province that presents the best prospects of success is Sind. The conditions here approximate more closely to those of Egypt than elsewhere. The soil is not dissimilar; the clear, dry atmosphere and the scarcity of rainfall present points of close resemblance; and Sind possesses perennial irrigation upon which the successful cultivation of Egyptian cotton chiefly depends. It is of no use to seek to grow Egyptian cotton in the Deccan or in Gujerat and to depend for water upon a rainfall extending over three and one-half months. The long-stapled Egyptian variety takes far longer to mature than the quick-growing Indian cotton, and it is essential that it should be continuously watered. Sind, with its light soil, its dry air, and its increasing system of perennial irrigation, presents advantages no other Indian province can show.

Land at Dhora Naro, near the Jamrao Canal, some distance above Hyderabad (Sind) was chosen for the experiments. Sowing was not completed until the end of April, whereas to attain full success it should have been done by the end of February. Nevertheless, with this bad start, remarkable results were obtained: All four varieties of Egyptian cotton were planted, including Abassi, commercially known as Egyptian white; Mitaffifi, or Egyptian brown; Ashmuni, or Upper Egyptian, and Yannovitch, also known as Egyptian brown.

The cotton plants were dense and tall, in most places nearly shoulder high, presenting a remarkable contrast to the stumpy plants of Gujerat, or the unkempt, short, and ragged appearance of the indigenous varieties of Sind. The plants were thickly covered with bolls, and those that had opened were unusually large and even, rendering picking easy.

They yielded a long silky staple, which was pronounced to be fully equal in quality to that of the parent stock. In quantity it was considered even larger than is customary in Egypt, and the plants had grown as high as the highest of Egypt. The yield (estimated) would be at least 1 bale to 2 acres, or even more, whereas in the Bombay Presidency the average yield is 1 bale to 5 acres.

Of the four varieties, Ashmuni probably did the best, but this is perhaps due to the late sowing, and to the fact that the Yannovitch and Mitaffi take rather longer to mature. The experiment was somewhat interfered with by the unusual severity of the scorching winds in the hot weather. Latterly they may have had too much water. One feature of the trials in the future will be an attempt to determine precisely how much water is needed. The great weakness of the native cultivator in all irrigation areas is his tendency to water his crops too freely.

There has been practically no disease among the Dhoro Nora plants, which have grown quite normally in spite of the unusually hot weather. White ants, from which trouble was feared, were scarcely in evidence.

An important feature of the cultivation of Egyptian cotton is that it must be sown in ridges. In Gujerat cotton is sown in level drills without ridges; in Sind, where the standard of cultivation is far below that of Gujerat, the cotton seed is merely sown broadcast. This is a wasteful and uncertain method, but it is characteristic of the Sind cultivator, who often does not even take the trouble to clear his ground of camel-thorn bushes.

In Egypt the ridges for the cotton are made by a plow, the seed being sown on the side of the ridges. It is here probably that one of the first difficulties will occur when the experiment takes a broader shape than that now controlled by the director of agriculture. The cultivators who have seen the plot fancy that the ridges must be made by hand. This was done at Dhoro Nora, owing to the haste with which the experiment was commenced. The typical Sind plow, which only varies slightly from the Gujerat type, can be converted for the purpose of constructing ridges at an almost nominal cost. The Sind plow is simply a piece of wood rounded, which merely cuts the earth, but by adding a bar of iron on one side, at the cost of 4 or 5 cents, an implement well adapted for heaping up ridges is provided. It moves easily through the light sandy loam of the district, and there is no need for the cultivator to apprehend that the ridges need to be made by hand, which would add seriously to the cost of cultivation.

Another difficulty has been perceived in this connection. The Gujerat bullock plows in a perfectly straight line; the Sind bullocks, badly trained and less efficient, move in a more erratic way. This again resolves itself into a question of training, which time alone can over-

come. Agricultural experiments of the kind under discussion are slow affairs here. There is no rapid road in innovations in India, and the reformer has therefore to face provoking conditions.

It should be understood that in the plot no manure of any kind was used. Dependence was solely on water and sun. The water is admitted into the land through a small cut in the Hirah Canal, and distributed as required by the primitive Sind contrivance of two wheels worked by bullocks, one wheel carrying a series of earthen pots which pour the water into the narrow irrigation channels.

The question of an alternating crop is also receiving attention, and it is hoped that Egyptian clover, which is about to be planted, will form a useful corrective, and that it will eliminate the danger which may arise from white ants.

One more advantage which Sind offers for long-staple cotton growing is that the land is mostly held by Zemindars, who farm on a comparatively large scale. Many of the landholders are pleaders at the principal towns who put their money in the soil. As a class they are usually intelligent and enterprising, ready to undertake expenditure if there is a prospect of reasonable return, and singularly willing to enter upon experiments, even if a certain amount of risk is involved. They can afford to wait for profits, and are not, like the peasant proprietors of the lower districts of the Bombay Presidency, anxious to plant the quickest growing variety of cotton in order to place it on the market sooner. Some of them have shown the keenest interest in the undertaking at Dhoro Nora, and many voluntary applications for seed have been received. Much depends upon the careful selection of new seed for the sowings, and the agricultural department will for the present undertake the work of selection in order that the best possible results may be obtained.

The main object of the experiments has been to test the capacity of Sind for Egyptian cotton cultivation, but it must be also mentioned that some rows of twelve or fifteen of the best American varieties have also been tried. The results attained were somewhat more favorable than with the Egyptian species, and on the whole the yield from American plants has been amazingly good in both quality and quantity. It may, indeed, ultimately become a question whether American cotton should not be given the preference over Egyptian. But so many contingencies hinge upon this problem that for the present it has not received very close attention.

The director of agriculture is anxious that no large assumptions should be prematurely based upon these experiments. All that has been so far done simply demonstrates that both Egyptian and American cotton can be successfully grown in Sind. Not being dismayed by the predictions of doleful pessimists, who always cry down adventures of any nature, it is believed that the quality of the staple can be

maintained. The deductions drawn from previous experiments are not analogous, because Egyptian and American conditions were not observed, and the wrong time for sowing was chosen in nearly every instance.

The officials recognize the great task that lies before them in instructing planters to follow a more careful system of cultivation than has hitherto prevailed. But they regard the undertaking as unusually promising, and the commissioner of Sind, together with the Bombay government, are determined to give it a full and fair trial. If their highest hopes are realized, the enterprise should add to the prosperity of Sind and Bombay to a remarkable degree.

Sindhi cotton, which is probably the worst in India, only brings from 5 to 7 cents a pound. It has a ready sale, being bought mostly by Germany, probably for admixture with woolen goods; its coarseness and wiriness, as well as its cheapness, are its only recommendations. Egyptian cotton of the best kind brings from 14 to 18 or 20 cents a pound, and the yield per acre is greater.

It remains to consider the larger possibilities that lie before the enterprise, if it reasonably fulfills all that is expected of it. There are 16,000,000 acres of cotton land under cultivation in India, out of which 5,000,000 are controlled by the government of Bombay; 2,000,000 acres of this are in native States. The total output of all India is 2,750,000 bales,^a of which 1,000,000 bales are produced in the Bombay Presidency. The exports consist of 1,600,000 bales, of which only 100,000 go to England, 1,000,000 to the Continent, and 500,000 to China and Japan. There is very little room for the extension of the cotton area in the Bombay Presidency, where efforts must in future be directed toward the improvement of the staple.

Sind has at present 200,000 acres under cotton, with an annual product of about half that many bales. The new system of perennial irrigation is, however, revolutionizing agricultural conditions in many districts. The Jamrao Canal irrigation area, which was opened about four years ago, commands at least 700,000 acres, not all of which at present is taken up. About 100,000 acres of this area is already under Sindhi cotton; in fact, cotton cultivation in Sind has doubled in the last five years. There is no reason why at least 200,000 acres of the Jamrao area should not be placed under cotton, all watered by irrigation. There are considerable possibilities of an extension of cotton cultivation in the eastern Nara and Mithrau Canal areas, as well as in the Fuleli Canal areas near Hyderabad.

Two important developments of irrigation from the Indus are at present under consideration, though they have not yet assumed a very definite shape. One of these contemplates an opening of a channel

^aThe Indian cotton bale weighs 396 pounds.

west of the Indus, at a point 30 miles south of Hyderabad, which will fertilize a very extensive area. The other scheme, of which more has been heard, is of even greater magnitude. Its main feature consists of the construction of a weir across the Indus at Sukku and the regular diversion of water to enormous tracts on both sides of the river, which at present depend solely upon inundation. If this latter project is carried out the possibilities of cotton cultivation will be immeasurably extended.

It is safer not to build too largely on these schemes at present, though they will probably come in time. But it is a moderate assumption that if the possibility of a regular cultivation of long-stapled cotton in Sind is amply demonstrated, we should see at least 500,000 acres under cotton in the province, with an annual output of at least 300,000 bales, within a period not far distant. The possibilities may perhaps be far greater, but it is safest not to deal with maximums while the scheme and the undertaking with which it is allied are still in the stage of investigation.

Only possibilities have been dealt with, and the question still remaining to be considered is the possible market for a long-staple cotton grown in Sind. Egyptian cotton is not in much demand in Lancashire, save at Bolton, but it is largely sought for on the Continent. If, on the other hand, Sind elects to grow American cotton, and does so with success, it may find a market in England. A more acceptable market for such cotton would be Bombay. It has often been urged that the salvation of the Bombay mill industry must lie in the spinning of finer counts and the weaving of better cloths. If Bombay can eventually derive a large and steady supply of long-staple cotton of good quality from Sind, it may go a long way toward the solution of a problem intimately associated with the welfare of the city.

CLARENCE E. FEE, *Clerk at Consulate.*

BOMBAY, INDIA, *December 10, 1904.*

RAILROADS IN CHINA.

The *Far Eastern Review* for November, 1904, published at Manila, P. I., has a number of notes on railways in the Far East. The most of those abstracted below are quoted from the *North China Daily News*, the *Hongkong Daily Telegraph*, the *Universal Gazette*, the *Tokyo Asahi*, and the *Eastern Times*.

Chengchau, on the Peking-Hankau Railway.—Chengchau seems to be experiencing a boom. Natives expect it to be the most important place on the railway between Hankau and Peking. The railway is about three-fourths of a mile from the city wall, and already most of the land outside of the wall toward the railway has been bought up by

enterprising Chinese from other places, and building has begun. Besides a large station, car shop, and yard, the railway company has seven foreign houses in course of construction. The superintendent of construction and his staff are to make this their headquarters in a short time. Another railway from Kaifeng to Honanfu is to cross the Pei-Han Railway here. It has already been surveyed, and the officials are busy between here and Honanfu buying land for the road.

The Canton-Macao Railway.—The capital of the Canton-Macao Railway is to be \$4,000,000, one-half of which is to be subscribed by Portuguese merchants and the other half by Chinese. An understanding has been effected between the Portuguese consul and Sheng Suen-hwai, Chinese minister of railways, with regard to the Canton-Macao Railway, whereby China, with the permission of Portugal, will establish a branch of her customs at Macao.

The Peking Syndicate.—The railway between Tsechau and Taokau has been built by the Peking Syndicate, but the Chinese Government does not allow the carrying of passengers or cargo, and the line does not pay. The syndicate has tried to sell the line to the Government. It has now decided to sell the railway line to the Lu Han Railway for 7,000,000 taels. The Peking tael is valued at 70 cents, which would reduce this sum to \$1,900,000.

France and the southern Chinese railways.—Work on the Hon'ei-Lungchau Railway via Liaoshan, which France obtained the right to build, is now progressing steadily and will be finished before long. There are other lines whose plans have already been drawn up by French engineers, and the influence of France in Yunnan province now equals that of Russia in Manchuria before the war.

Shanghai-Hangchau road.—It is reported that the German consul at Shanghai, believing that the concession for a British railway between that place and Hangchau, about 100 miles southwest, will lapse, is endeavoring to secure the reversion for Germany, together with concessions in the Yangtze Valley, in order to counteract what is described as Britain's efforts to obtain a preferential position in China.

Fenyang-Nanking road.—The prominent Chinese merchants in Fenyang, Anhui Province, wish to establish a railway to Nanking, some Americans being among the capitalists. The promoters have applied to the department of commercial affairs through Governor Sing. Viceroy Chang has granted a request with regard to a proposal to establish a railway between Hankau and Changsha, appropriating funds reserved for a year of scarcity.

Hankau-Hangchau Railway.—It is reported that the gentry and merchants of Chekiang Province have petitioned the board of foreign affairs for the concession to build a railway from Hankau to Hangchau and from Kiukiang to Fuchau. Petitioners offer to provide capital for the building of the two railways, and in case their capital is insufficient they propose to borrow from the United States. In return for this concession, petitioners offer to contribute annually toward the funds of the army reorganization department the sum of 200,000 taels (\$140,000).

Nanchang-Kiukiang line.—The right of laying down the railway between Nanchang and Kiukiang has been granted by the department of commerce. The railway company has asked the department to be allowed to issue lottery tickets in order to raise the capital, stating that if the application is granted, 20,000 taels (\$14,000) will be presented to the Government for drilling expenses.

Kiangsi-Kiunan Railway.—The promoters for the Kiangsi-Kiunan Railway have been very successful in getting people interested in the enterprise. Already a capital of \$400,000 has been subscribed, representing the shares of three individuals.

Shanghai-Nankin Railway.—The preliminary work in connection with the construction of the Shanghai-Nankin Railway was to be commenced at the Shanghai end on the 3d of October.

Chengtin-Taiyuan Railway loan.—The sum of 500,000 francs (\$96,500) has been received at Shanghai from Paris, and will be handed over to the railway administration by the Russo-Chinese Bank in a few days.

Su-Hu Railway.—A gentleman of Suchau has filed a petition with the board of commerce for the purpose of undertaking to build the railway between Shanghai and Suchau, with a capital of over 4,000,000 taels (\$2,800,000), which has already been subscribed. The regulations regarding the undertaking have been submitted.

International Railway Conference.—According to a Peking dispatch, the Chinese Government has decided to dispatch four commissioners to the forthcoming International Railway Conference to be held at Washington, United States of America, in 1905.

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CHINESE TRANSIT FEES.

(From United States Consul Anderson, Hangchau, China.)

The matter of the imposition or attempted imposition of additional taxes and restraints upon trade in China, through "huchaos" and transit permit fees, is causing considerable uneasiness among some lines of trade in this part of China. So far as Hangchau and its tributary trade district is concerned there is practically no trouble, owing to the announcement from the customs taotai of Chekiang province that for the time being the tax will not be imposed. As related in a recent dispatch,^a this was taken as practically an abandonment of the plan of the customs to increase their revenue. The tax has been enforced in Yangtze River ports, however, and in some of the ports of North China. It has been resisted by foreign merchants, and if paid at all by them it has been paid under protest. Traders in this part of the country feel that if the tax is imposed anywhere it is only a matter of time until it will be imposed here, and they are looking for trouble. The tax is resisted on the part of the Chinese because it is excessive for the service rendered. The schedule of fees calls for 1 tael (70 cents gold) for each transit permit issued, and 3 taels (about \$2.10 gold) for each huchao for grain, including rice, and bullion up to 5,000 taels (\$3,500 gold), personal effects of Chinese officials, and upon provisions. Inasmuch as many shipments of grain, for instance, will hardly amount to 3 taels in value, the nature of the charge in such cases is plain, and in the case of bullion the charge is really a tax upon bank-

^a Published in Daily Consular Reports, No. 2159, January 17, 1905.

ing institutions, which means an increase in the already heavy rates of exchange.

The most unfavorable feature of the matter, however, is that the imposition of these fees is taken to be the beginning of a policy on the part of the customs department of the Government contrary to the spirit and even the letter of the commercial treaties. Coupled with Chinese opposition to the extension of taxes upon any other line the policy of the Chinese Government represented in these new fees is taken as being hostile to the trade plans represented by the commercial treaties. It is felt that if these fees were paid and submitted to without protest there would be a material invasion of the rights of treaty nations under current agreements.

In May, 1903, the customs imposed a fee of 5 mace^a (35 cents) on each outward transit pass, but the amount was so small that traders paid it rather than go to the trouble of making complaint and protest. It is felt that this charge was as illegal as the present plan of charging fees of a tael (70 cents) for passes in each direction. It was merely the beginning of what is feared is a policy which the customs service will not readily relinquish.

The foreign newspapers published in China have protested vigorously against the fees. They are unpopular with the personnel of the customs service itself, and it is thought that vigorous and continued protest on the part of those interested will result in their complete abolition. The temporary suspension of their imposition at Hangchau and most ports does not do away with them permanently, and commercial interests probably can protect themselves from such infractions of treaty rights in the future only by a decisive victory in the present case.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *November 19, 1904.*

MOTOR BOATS IN SWEDEN.

(From United States Consul Bergh, Gottenborg, Sweden.)

The motors demanded in Sweden are (1) gasoline (benzine) motors for pleasure launches and boats, (2) kerosene motors for fishing boats, barges, and small tugboats, and (3) small, cheap motors which can be fitted into open rowboats.

The persons in Gottenborg with means enough to buy first-class motor launches are comparatively few; still there are enough of them

^a Chinese money: Tael, mace, candareens, and cash; the tael is equal to 10 mace, or 100 candareens, or 1,000 cash.—BUREAU OF STATISTICS.

to warrant efforts on the part of American manufacturers to get an extended market here. The motors should be reliable and in good working order when delivered, and not too expensive. The fishermen—that is, those who can afford to do so—will undoubtedly continue to buy kerosene motors for their boats and dories; it is possible that the most of them now purchase Swedish motors, because the Swedish manufacturers provide special facilities for putting their motors in the boats. Some small freight boats or barges have been provided with kerosene motors recently, and others will undoubtedly follow. It has been proposed to build small passenger boats with motors for traffic on the coast.

If motors for 14 to 16 foot rowboats could be made very cheap, and still reliable, I think the demand would be considerable. There are a great many persons of limited means here who like to take a boat trip on the river, or out to the sea, on leisure hours or on Sundays, but even \$50 or \$75 would be considered by this class far too much for a small motor, when the boat itself could be bought for \$13 to \$20. The agent selling the motors should be thoroughly familiar with their mechanism—better still if he could have a small workshop where defects could be corrected.

Upon inquiry I find that American marine motors are used here to a considerable extent, with varying results, and it is claimed that many cheap machines of inferior quality have been imported, detrimental to the trade of American manufacturers in general, and causing trouble to the Swedish importers. The chief objections against this class of American motors seem to be that they are difficult to start; that the vaporizers or carburetors are defective, and that the spark shifters (if there are any) are not adjusted so that the time of the spark can be regulated to get the most work out of the motors. The following is from a dealer in motors here, as given to me, and it seems to agree with the general opinion :

My experience with American motors is this, that they are prominent for simplicity of construction, and would be excellent if a little more work was expended on them. It is easy to see that they are products of work en masse; they are usually carelessly put together, and insufficiently tested. Such motors are often useless if delivered directly into the hands of the actual purchasers. A great deal of work must be done here in testing and adjusting the motors and in making new parts for the American machines before they can be delivered to customers. This increases the initial cost considerably, so the apparently low prices quoted by some manufacturers are mostly imaginary. As to solidity and finish the American motors are often inferior to those of Swedish manufacture. There are, of course, American manufacturers who turn out motors of better quality, but their prices are usually so high that there would be no profit in importing them. If careful finishing work is spent here on an American motor, it can as a rule be made to work to entire satisfaction.

It will be noticed that the foregoing is not so flattering as it might be. Having in mind the competition from the Swedish, Danish, German, and French manufacturers, it seems to me necessary for the American manufacturers to do what they can to gain for their motors a reputation for reliability and finished work. How first-class work can be combined with low prices is a problem which I must leave to the manufacturers to solve.

The most economical way, under ordinary circumstances, is to import the motors and build the boats here. The transportation charges for boats or launches would be too high, it is said. There is no import duty on boats or vessels. The import duty on gasoline or kerosene motors is 10 per cent ad valorem, transportation costs, etc., entering into the dutiable value. The duty on electric apparatus is 15 per cent ad valorem.

Gasoline motors may occasionally be imported by other parties, but the two persons in this city (Gottenborg) who seem to have made their import a specialty are Karl Heineman and G. R. Liljegren. I understand that they import and sell motors of different models and prices. Mr. Heineman has a workshop, superintended by an engineer, for the repairs, etc., of motors, and Mr. Liljegren is himself an engineer.

I may say that catalogues sent to the consulate are always welcome, and as a rule useful, but would be of much more service if the manufacturer would at the same time write and inform the consul of the net prices, stating approximately, if possible, the freight charges on his goods from the shipping point to the country under consideration.

ROBERT S. S. BERGH, *Consul*.

GOTTENBORG, SWEDEN, *December 22, 1904.*

NEW LIGHT-HOUSE FOR THE ENGLISH CHANNEL.

(From United States Consul Stephens, Plymouth, England.)

St. Catherines Point light-house has just been opened. It is intended to improve the entrance to Fowey Harbor by night, and to be a warning to mariners of the dangerous character of the Cornish coast. The light-house is to the west and on the edge of Pennybney Cove.

The light is dioptric, white, flashing, of the fourth order, with red sectors. It will show white between the bearings of N. 49° E. and N. 49° W., and red from N. 49° W. to S. 70° W., and from N. 49° E. to N. 77° E. On other bearings the light is obscured from the land. The light will exhibit one flash every five seconds, as follows: Light, two seconds; dark, three seconds. The intensity of the white and red lights will be 1,700 candlepower, or 1½ light-house unit. Gas is the

illuminant, and the light will be unattended at night. In clear weather the light will be visible from a distance of 15 nautical miles. The focal plane of the light is elevated 91 feet above high water of ordinary spring tides, while the fane is 101 feet above sea level. Immediately in the rear of the lantern are two small buildings, one containing a gasometer, and the other used as a store and observation house.

In recent years the shipping trade of Fowey has largely developed, the exports exceeding 35,000 tons per month. In the last ten years the income of the port commissioners has more than doubled. China clay is the chief export, ships coming for it from all parts of the civilized world. Two lines of steamers trade between this port and ports in the United States. Now that St. Catherines light-house has been constructed, the trade, it is believed, will be still further increased, for the harbor can be entered as safely by night as by day. Formerly masters have preferred staying in Plymouth Sound rather than risk their vessels in making for Fowey Harbor by night. The new light will be almost as important as the Eddystone, for both will be visible in clear weather for New York vessels calling at Plymouth, of which there are five liners a week. It will warn sailors of the danger of the Udder Rock, and of the still more dangerous Cannis Rock. For the latter the Trinity Brethren erected the day mark known as Gribbin Head Beacon, 250 feet high. The nearest lights are the Eddystone, about 20 miles; St. Anthony, Falmouth, about 22 miles, and the Lizard, much farther west.

JOS. G. STEPHENS, *Consul*.

PLYMOUTH, ENGLAND, *December 7, 1904.*

CANADIAN EXPORTS OF PULP, PULP WOOD, AND PAPER.

(From United States Consul Gunsaulus, Toronto, Canada.)

Railroad men report an unprecedented rush of pulp and pulp wood from Canadian points to American mills. An official of the Canada Atlantic Railway says that wood pulp is being shipped at the rate of 1,000 tons a day from points along the Canada Atlantic Railway and the Great Northern Railway, a connecting line running through Quebec Province. All this is being forwarded to mills in the United States. Another railway official says that he knows that over 50,000 tons of wood pulp have been contracted for in Canada by American paper manufacturers. This will be sent forward from eastern Ontario, New Brunswick, and Quebec. In some instances it will represent the output of the mills up to March 1 next. The mills in the Lake St. John district, Quebec, are foremost on the list of those that are shipping wood pulp to American mills.

The statistics for the fiscal year 1904 show that while the export of wood pulp from Canada decreased, the export of the raw material (pulp wood), all of which goes to the United States, increased. The value of the total export of pulp wood in 1904 was \$1,758,049, an increase over 1903 of \$229,489, or 4½ per cent. The total export of pulp decreased 23 per cent, the value being \$2,409,074, against \$3,150,943 in the previous year. The falling off was chiefly in the export to Great Britain, namely, from \$1,129,173 in 1903 to \$548,720 in 1904. The value of exports to other countries fell from \$226,002 to \$52,912. The value of Canada's total exports of paper, however, rose from \$849,519 to \$1,097,212, an increase of \$247,693, or 29 per cent. This paper went to the following countries: Great Britain, \$447,672; the United States, \$163,000; other countries, \$486,531.

E. N. GUNSAULUS, *Consul*.

TORONTO, CANADA, *January 11, 1905.*

MINES AND MINERALS IN GUATEMALA.

(*From United States Consul-General Winslow, Guatemala City, Guatemala.*)

The mineral deposits of this Republic cover a wide range and are very rich. During the early Spanish occupancy of this part of Central America fabulous quantities of gold and silver were taken from Guatemala. Many of the mines were worked as late as the first half of the nineteenth century, but since that time the frequent revolutions and disturbances have discouraged mining. With the quiet that has reigned for the past six years, and with the outlook, much more interest is being taken in mining properties than for many years.

The mining laws provide that in case no work is done on a mine for a period of two years it reverts to the Government, and can again be acquired as in the first instance. The mining laws in general are very liberal, resembling those of the United States, and the interests of the miners are well protected. Some of the old, rich mines are being reopened, and Guatemala bids fair to attract more attention along this line than Mexico.

It is a matter of history that at one time there were 140 rich mines worked here. From one group the mint of Guatemala coined silver to the amount of \$43,000,000, besides what was shipped directly to Europe. Large bodies of lead ore are found that runs from 70 to 80 per cent lead, with some silver. These are matters of record, and the mines are not difficult to locate. Gold is quite extensively mined, and copper is said to be plentiful. The mica beds are very extensive, and abundance of first-class mica is in easy reach. As yet but little coal of value has been discovered. Iron ore of a good quality has been discovered; but as yet no practical use has been made of it.

The climate where the mines are situated is, in the main, temperate, and the heat seldom exceeds from 75 to 80 degrees in the shade. The sanitary conditions are fine and the country is considered a healthful place to live.

In some parts labor is very scarce, and as a general thing native labor is not worth much in mines. It can be had for from 10 to 20 cents gold per day, but that is about all it is worth as compared with the labor of practical miners. For common labor the natives do better.

ALFRED A. WINSLOW, *Consul-General.*

GUATEMALA CITY, GUATEMALA, *December 30, 1904.*

BRITISH MAIL SUBSIDIES AND LASCAR SEAMEN.

(*From United States Consul Hamm, Hull, England.*)

SEAMEN'S WAGES.

Inquiries among shipping agents and shipowners give the following facts and figures as to the class of seamen employed on ships running to this port (Hull) and the wages paid them. Wages vary in the different ports and on different ships in the same port. They vary most, however, among seamen of different nationalities. There is no fixed wage scale for this class of workers. Each agent or captain tries to get his men at the lowest rate possible. Sailors as a rule are a drifting class, very few of them remaining any length of time with the same ship. This is especially true of white sailors. With the class of sailors known as lascars the situation is in many respects different.

The accompanying tables give examples of the wages paid by different firms on the different services:

Wages paid on steamships entering Hull, England.

WHITE.

Class.	Service.			
	General (monthly).	Atlantic (monthly).	Mediterranean (monthly).	Baltic (weekly). ^a
Chief engineers.....	\$77.86	\$82.73	\$72.99	\$15.81 to \$17.03
Second engineers.....	58.39	58.39	53.53	10.94 to 12.16
Third engineers.....	38.93	43.79	38.93	9.73
Fourth engineers.....	34.06	36.49		
First mates.....	46.23	48.66	45.01	10.94 to 12.16
Second mates.....	43.06	31.62	30.41	8.51 to 9.73
Third mates.....		26.54	25.54	
Firemen.....	21.89	21.89	21.89	7.29
Donkeymen.....	25.24	24.33	23.72	7.54
Carpenters.....	29.19	27.97	27.37	7.78
Cooks.....	25.54	24.33	21.29	5.59
Stewards.....	20.96	25.54	21.29	5.59
Able-bodied seamen.....	20.68	20.67	20.07	7.29
Boatwains.....	24.00	23.10	21.29	7.34
Trimmers.....		20.68		7.29

^aCrews provide their own board.

Wages paid on steamships entering Hull, England—Continued.

LASCARS.

Class.	General (monthly).	Class.	General (monthly).
Foremen.....	\$12.80	Donkeymen.....	\$7.36
Second foremen.....	11.20	Firemen.....	5.44
Boatswains' mates.....	8.96	Trimmers.....	3.84
Cassah.....	7.04	Stewards.....	19.20
Wenchmen.....	7.04	Cooks.....	14.40
Seamen.....	\$5.12 to 6.40	Second cooks.....	4.80
Bhandaries.....	5.44		

LASCAR SAILORS.

The term "lascar" is a general name given to native East Indian sailors. They are employed under strict regulations, and are kept under rigid discipline. One of their number acts as foreman and interpreter, all the others being subject to his orders. They are paid no wages during a voyage, the practice being to pay them only at the end of the return voyage when they arrive back in India. Their wages, as will be seen in the table, are low, and their fare plain. They are not so strong and hardy as most white sailors, and more of them have to be employed, but a crew of these lascars costs much less than a white crew. They are especially serviceable as stokers on ships sailing through the Tropics.

Every ship captain having a crew of these lascars with whom I have talked has asserted that he preferred them to a crew made up of Europeans. They are said to be more tractable, and, having no money to spend while in port, are more sober and less liable to desert. But if a lascar does desert, the owners of the ship he leaves are responsible for any damage that may be caused by him, and they are also compelled to pay for his transportation back to India. Lascars can, however, be transferred from one ship to another.

AUSTRALIAN LAWS PROHIBITING THE EMPLOYMENT OF LASCARS.

The employment of these lascars may become a source of trouble. Protests have frequently been made against them, and this opposition may be brought to a head by the act of the Australian government in connection with the carrying of the mails. The Australian Parliament recently passed a law prohibiting the making of any contract for mail service in which the ships to be employed carried Indian seamen and firemen. The aim of the measure is to discourage the employment of lascars and promote the employment of British seamen, whether of home or colonial birth. But as the Indian seamen and firemen are as much British subjects as the English or the Australians, such a law countenances discrimination on racial grounds among subjects of the same Empire, and the English Government accordingly has refused to associate itself with Australia in a mail contract on such terms.

The shipping companies carrying the Australian mails long ago found it impracticable to undertake the service without employing a certain number of men who could endure the heat of the Tropics, and they refuse to dismiss their lascar sailors. The French and German mail-carrying companies have also found it necessary to employ lascars and other men from hot climates. Besides, the dearth of British seamen is so great in the mercantile marine that the effect of the Australian law would not benefit white seamen.

EFFECTS OF AUSTRALIAN LAW ON BRITISH SUBSIDIZED STEAMSHIPS.

There is now a weekly mail from England to Australia, the companies taking the mails alternately. The Peninsular and Oriental Company are paid \$1,650,000 a year for a weekly service to Bombay and a fortnightly service to Shanghai and Australia, and the Orient Company receives \$425,000 for a fortnightly service to Australia, and equivalent contracts are made on the other side. As these companies employ lascar seamen, the Australian postal department has refused to renew its contracts with them and decided to send the mails from Australia to England under the "poundage" system—that is to say, they will be forwarded by any vessels which happen to be most convenient, and payment will be made by weight instead of by an annual subsidy. The poundage system is in use on the Atlantic. For the carriage of mails from the United Kingdom to New York 72 cents per pound on letters and post cards up to a certain weight is paid, and 48 cents above that weight, and 6 cents per pound on newspapers, etc. One effect of the change will be, it is expected, to give an opening to ships of other nationalities to compete in carrying the mails to England—the North German Lloyd, for instance. At present this company has a three-weekly service to Australia, but were there a prospect of obtaining the English mails the steamers would probably be run fortnightly. In that case the German Government might be expected to increase the subsidy of \$575,000 a year now paid to the North German Lloyd for its Australian service. This is calculated to give a mileage rate of \$1.60 per mile, while the French Government gives a subsidy amounting to \$2 a mile to the Messageries-Maritimes for running to Australia. These rates are considerably higher than the mail subsidies which have been received by the two English companies, which are estimated at 64 cents per mile for the Australian run.

The interesting points to Americans in connection with the employment of these lascars on subsidized ships are the low wages at which they work and the inferior accommodations they are satisfied with. So far as I have been able to observe only white sailors of the lowest class would submit to the same conditions these lascars accept. The ability, however, of the British to man ships with these cheap lascar crews and the large subsidies received from the Government are two

of the three causes that enable them to maintain their supremacy in the ocean-carrying trade; and it is in competition with ships so manned and subsidized that American ships will have to come.

WALTER C. HAMM, *Consul*.

HULL, ENGLAND, *December 28, 1904.*

FREE IMPORTATION OF HOUSEHOLD GOODS INTO MEXICO.

(From United States Consul-General Parsons, Mexico City, Mexico.)

I inclose a translation by Mr. Simonds, associate editor of the Mexican Herald, of the rules governing the free entry into Mexico of the effects of immigrants. Many inquiries on this subject have been received.

The following document emanating from the finance department is self-explanatory and of great interest to people from the United States who come here to reside:

Article 241 of the general custom-house ordinances, amended by decree of March 29, 1904, grants to foreigners who come to establish themselves in the country exemption from tariff duties on the household effects which they may have used in their previous place of residence. As the enjoyment of this privilege depends essentially on the conditions set forth in the same article, it becomes necessary to define with exactness the requirements which the interested parties must comply with, and with that end in view the President of the Republic has been pleased to decide that the concession in question is subject to the following rules:

I. The interested party will present to the department of finance a petition in which must be set forth the name of the applicant; the number of the members of his family accompanying him; his profession or trade; the place of his last residence abroad and the length of time which he lived there; the date of his arrival in the Republic; the port or border point at which he entered the country; his present place of residence, and a statement as to whether he has there exercised his profession or trade since his arrival.

II. The application will be accompanied by the following documentary proofs:

(a) A certificate from a competent authority of the last previous place of residence of the applicant, setting forth the length of time which he resided there and declaring that during that time he had a fixed place of abode.

(b) A certificate from a competent authority of the applicant's present place of residence, showing the time that has elapsed since his arrival. In default of a certificate there may be presented a statement signed by the consul of the nation to which the applicant belongs, or by two reputable witnesses residing in the locality.

(c) A copy of the lease of the house occupied or about to be occupied by the applicant. If the applicant has not yet taken any house, this document will be replaced by a statement as to his provisional

abode signed by the head of the household or establishment in which he has taken up his quarters.

(d) Copy of the statement which the applicant has made to the proper taxation office in case he be practicing on his own account his profession or trade; or, if he be employed in an industrial, agricultural, or commercial concern, one of the copies of his indenture; or if there be no indenture, a statement from the owner or representative of the concern to the effect that the applicant is in his service.

(e) A detailed list of the articles constituting the household effects, giving their approximate price and the length of time during which each object or group of objects used for a given purpose have been in use. In the same list mention will be made of the custom-house through which the household effects are to be introduced, and, if such be the case, the applicant will state his desire that the goods be cleared at the custom-house of Mexico City.

III. The department of finance, after receiving a report from the custom-house bureau in regard to the proofs presented by the applicant, will decide as to whether the application is to be taken into consideration, and if the decision is in the affirmative, it will determine whether the exemption from duties is to be allowed on all the articles included in the list or only on a part of them, with the understanding that the value of the articles on which exemption from duties is allowed can in no event exceed 1,000 pesos. The custom-house bureau, in compliance with the decision, will give orders that the importation be permitted and that the clearance of the goods be effected either at the custom-house of entry or at the import custom-house of Mexico, the formalities laid down by the general custom-house ordinances being observed in either case.

IV. When the custom-house clearing the goods notes that the objects being imported are new, it will suspend delivery of same and will ask the department of finance, through the custom-house bureau, for instructions.

V. In case the articles which, according to the decision of the department of finance are to pay duties, show signs of use, the custom-house clearing them may grant a rebate of duties on them on the score of wear, in accordance with the procedure laid down in the general custom-house ordinances.

VI. In case the applicant, either because he is abroad or for any other reason, is unable at once to present the proofs required by Rule II and should, nevertheless, desire to have his household goods entered into the country, he may be accommodated by his paying in to the custom-house the amount of the duties due, which will be held in deposit for six months. If, at the expiration of that period, the custom-house shall not have received the order of exemption, it will definitely apply the deposit to the prescribed branches of the revenue.

VII. Orders of exemption from duties received by the custom-houses will lapse at the end of six months, counted from the date of the document transmitting the decision.

VIII. Exemption from duties can not be granted more than once to the same applicant.

IX. In all cases of exemption from duties on household goods the applicant will in writing bind himself to the clearing custom-house not to sell the goods imported under this privilege within six months, and if he breaks this promise he will be obliged to pay the plain duties

and the same twice over in addition, over and above the penalties to which he may have rendered himself liable for the fraud committed.

X. The department of finance may, when special circumstances warrant it, exonerate applicants from compliance with one or more of the requirements set forth in the present rules.

JAMES R. PARSONS, Jr., *Consul-General.*

MEXICO CITY, MEXICO, *January 9, 1905.*

IMPORTS OF WOOL AT MARSEILLE.

(*From United States Consul-General Skinner, Marseille, France.*)

A regular and progressive rise in prices of all grades of wool marked the year 1904 in Marseille. The following table will show the importance of the increase in prices, as contrasted with the prices prevailing in 1902:

Lowest price of wool at Marseille, France, in 1902, and price at end of 1904.

Grade.	Lowest price, 1902, per kilogram (2.20 pounds).	Price end of 1904, per kilogram (2.20 pounds).
Orfa white, washed.....	\$0.337	\$0.511
Aleppo white, in grease.....	.144	.265
Angora white, in grease.....	.164	.265
Bagdad white, washed.....	.241	.424
Turkestan mountain white, in grease.....	.164	.251
Khorassan white, washed.....	.260	.380
Bengasi white, in grease.....	.106	.188

The total imports in recent years, by bales, have been as follows: 1900, 130,641; 1901, 117,370; 1902, 101,260; 1903, 126,632; 1904, 123,556.

The stocks on hand, by bales, at the close of each of the calendar years named have been as follows: 1900, 23,500; 1901, 24,000; 1902, 6,300; 1903, 7,500; 1904, 3,425.

It thus appears that there is practically no stock whatever in the local market, and I am told that the supplies in the original markets have been very thoroughly exhausted also. Local manufacturers and buyers have been interested particularly in the fine wools of Africa and Spain, leaving the common grades of carpet wools to be absorbed by the American buyers, who have paid up to the limit of the amount which would enable them to enter their purchases as class 3 wools, valued at less than 12 cents per pound. In some cases the limit fixed by the tariff law has been overstepped, and within the last few months a number of exports have been made of relatively high-grade wools.

Prominent dealers tell me that Marseille has never been faced with such a shortage of wool, and the new clip is too far in the future to make it possible to secure an important supply. Most of the buyers

have orders on hand which they are unable to fill. Prices have reached a level, however, so high as to make another increase improbable.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *December 30, 1904.*

CANADIAN CUSTOMS REGULATIONS.

(*From United States Consul Gunsaulus, Toronto, Canada.*)

The new customs regulations affecting invoices of goods coming into Canada, which recently went into effect, are as follows:

The customs authorities now require duplicate invoices, and on each invoice must be a column in which is to be entered the fair selling price in the country from which the articles are imported. This is part of the "antidumping" regulations. On each invoice there must be printed or written a certificate of the value of the goods contained in the consignment. The new form of certificate must be signed by the exporter or by a responsible agent, and must be to the effect that the invoice is correct as to the price of goods; that the value placed on them is the fair market value if they were sold in like quantity or condition for home consumption; that no different invoice will be furnished to anyone, and that there is no arrangement allowing the purchaser any discount or rebate or any compensation whatsoever. On all invoices of goods not entered under the British preferential tariff a special certificate has to be sworn to, stating that none of the articles is the product or manufacture of Germany. A certificate is required on invoices of goods of British manufacture, giving details as to the countries from which the materials included in the consignment come; and in the invoice of goods sold by an exporter prior to their shipment to Canada not only must the market value of the goods for home consumption be given, but also the selling price to the purchaser in Canada.

E. N. GUNSAULUS, *Consul.*

TORONTO, CANADA, *January 11, 1905.*

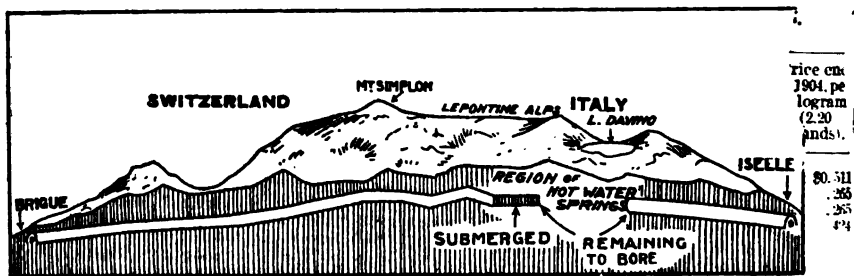
SIMPLON TUNNEL.

(*From United States Consul Monaghan, Chemnitz, Germany.*)

The Simplon tunnel has met with no end of obstacles during its course of construction. It will be $12\frac{1}{4}$ miles long when finished, the longest tunnel in the world. Its altitude above sea level (2,310 feet) is much lower than that of any other Alpine tunnel, which accounts for its great length. The Arlberg is $6\frac{1}{4}$ miles long and 4,300 feet above sea level. Work was started in August, 1898, simul-

taneously from the Swiss and Italian sides. All the workmen (10,000) are Italians, 4,000 beginning work at Brigue, Switzerland, and 6,000 at Iselle on the Italian side. It was believed that the rocks were composed of vertical strata, but they proved to be horizontal on the Italian side. Great streams of water were met, which it required much energy to turn aside. After this difficulty had been overcome the engineers came upon a bed of moving sand, which threatened to fill the shaft already drilled. Enormous wooden supports were used to stem its rush, but they went to pieces under the enormous pressure and were replaced by steel stays to hold up the metal plates to keep out the sand. Last but not least, hot springs were encountered around which they had to work.

The rock through which the tunnel is being driven is mostly granite. By the adoption of the so-called Brandt drill the galleries on the Swiss side were advanced some 20 feet daily and often more, an unprecedented result. The Brandt drill, which is 3 inches in diameter, rotates slowly



Sectional view of the Simplon tunnel.

and is kept at its work by a hydraulic pressure of 1,500 pounds to the cubic inch or 10 tons on the cutting face of the drill. The waste water is discharged along the axis of the tool, and in this way the tool is kept cool and the rock cut away is washed out. The entire undertaking consists of the cutting of two parallel tunnels 56 feet apart, which are connected at every 300 feet by transverse galleries. By means of these galleries one tunnel will ventilate the other.

The workers in the tunnel are supplied with 58,000 cubic feet of air per minute, spray and ice arrangements being introduced for cooling the air. The water discharged from the north and south ends of the tunnel by means of drains cut in the rock amounts to 5,000 gallons per minute. Shifts change every eight hours. The men are brought out in heated cars and taken to a warm station, where they change their clothes. Ample provision is made for hot and cold douche baths. The workmen's clothing is hung up in hot rooms to dry, in order that it may be in a fit condition for the next day's work. A restaurant is connected with the station, where food of an excellent quality is served

at a very small price. Sleeping apartments are also arranged for the men at a very low price.

The tunnel will cost between \$18,000,000 and \$20,000,000.

It will be seen at a glance what an industrial advantage this undertaking will be to Switzerland, Italy, and Germany.

J. F. MONAGHAN, *Consul*.

CHEMNITZ, GERMANY, *December 21, 1904.*

Reporting on this same subject (the Simplon tunnel), United States Consul Horace Lee Washington, under date of December 28, 1904, writes from Geneva, Switzerland, as follows:

Referring to my report on the Simplon tunnel of October 6 and 17, 1904, I have to report that since September 6, 1904, when hot springs were met on the southern side, only 34 meters (111½ feet) have been tunneled in the first gallery up to December 20, 1904; thus there remain 210 meters (689½ feet) to be tunneled. This work will be done entirely from the southern side, boring in the northern side having been abandoned since May, 1904.

The difficulty, according to the chief engineer in charge on the southern side, who has courteously furnished this information, arises from the fact that at the point of contact with the hot springs the rock is of a cretaceous formation and not solid, and therefore the boring is retarded, since greater precautions are required for the safety of the workmen. A further and even more serious difficulty to surmount is the impossibility of men continuing at work beyond thirty minutes at one time on account of the excessive heat created by the hot springs, which throw out about 60 liters (64 quarts) per second, with a temperature of 46 degrees C. (115 degrees Fahr.) in the first gallery.

PREVENTION OF RAIL LENGTHENING AND TRACK SPREADING.

(From United States Consul Muench, Plauen, Germany.)

The spreading and lengthening of rails and track on double-track railways has recently formed an interesting topic of discussion in the engineering circles of Germany. The tendency of steel rails and tracks to lengthen in the direction followed by passing trains has long been a disturbing factor here in the conduct of double-track roads, it being asserted, on authority, that, aside from the element of danger, the cost of remedying this particular evil consumes as much as 30 to 40 per cent of the entire annual expense of track repairs on such roads.

The main causes of such lengthening are variously supposed to be the thumping of the rolling stock against the rear ends of the rails, the friction of wheels under the stress of powerful brakes and weights, and the pressure of wheel flanges against the outer rail of curves. Single-track roads are not similarly affected, because the passage of trains in both directions acts as a natural corrective of the evil.

Through this forward motion of the rails the safety space between rail ends disappears and any increase in temperature is liable to result in the spreading or bulging of the track, as also the twisting and tipping of sleepers and ties, an effect especially noticeable and injurious near switches and frogs. At sharp grades and curves it may happen that one rail is moved forward, while the other assumes the opposite motion, thus bringing about a dangerous twisting of the road bed.

In the past the trouble in question was sought to be met by notching the old-style iron rail for the reception of the spikes or bolts that hold down the flange; but this did not entirely remedy the trouble, since the tie also yielded to the pressure in question; nor was the consequent weakening of the rails a small matter, it being found that they frequently broke where notched, especially after the introduction of steel rails. The expedient of so applying the fish plates as to keep the ends of rails a fixed distance apart also proved unavailing because the forward pressure was thus concentrated upon the two adjoining sleepers, which soon became loosened from their beds. But little better success was attained by driving posts or piles against these adjoining sleepers, or applying braces and trusses between neighboring ties. For a time the expedient was resorted to of screwing short pieces of iron, or braces, to the base flange of the rail, the ends of which in turn rested against the spikes holding the rails; yet this also was found unsatisfactory, owing to the labor required and the weakening of the rail caused by the drilling of so many holes.

Recently an invention has been perfected by an engineer named Dormmüller, which is claimed to have completely solved the difficulty.

The apparatus consists of an iron clasp or clamp (indicated on the accompanying sketches by the letter *a*), the curled ends of which hug the base flanges of the steel rail from the top and which firmly hold against the bottom of the rail a key or wedge of iron (*k*), the wide end of which is calculated to rest firmly against the side of the next adjoining sleeper. This wedge again drives two pieces of iron (*s s*) against the slanting bottom of the clamp, thus automatically and successfully holding in place the entire apparatus by means of the very force that is sought to be counteracted. Through the application of a sufficient number of these clamps at points where the track appears particularly endangered, the entire roadbed is rendered steadfast, and the movement forward of rails has been successfully overcome.

The lines between Aix la Chapelle and Düsseldorf and between Cologne and Herbesthal have been equipped with this apparatus. Severe tests have been made at points where the trouble has heretofore

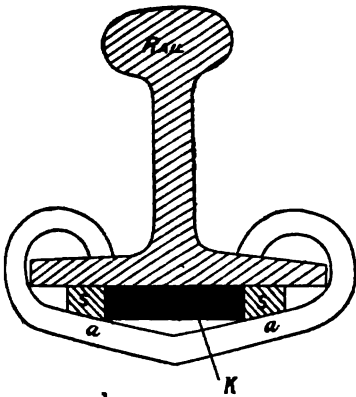


FIG. 1.—Cross-section of rail and apparatus to prevent creeping.

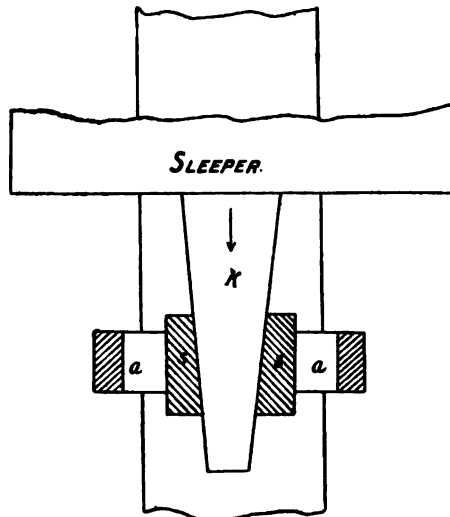


FIG. 2.—Horizontal section of apparatus to prevent rail creeping.

been greatest, and it was found that by applying eight clamps to each 50-foot rail, laid upon a gradient of 1:37, and where 54 trains per day passed thereon, practically no movement of track or rails took place

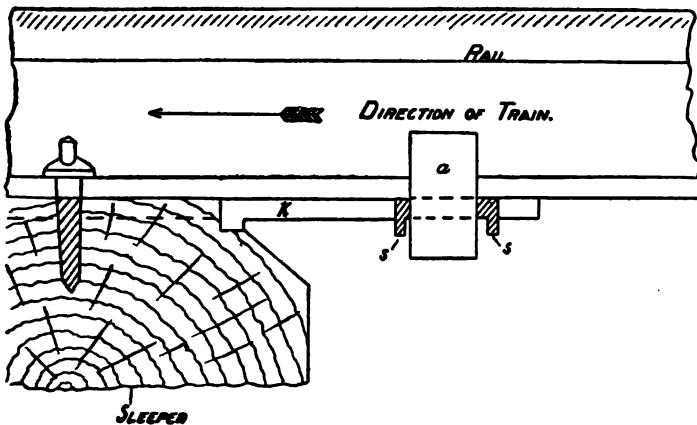


FIG. 3.—Side view of rail and apparatus to prevent creeping.

during a period of eighteen months, while, without this appliance, it had been necessary to restore normal conditions about every three or four weeks.

Should further details be desired, they could doubtless be had from the inventor or from the *Zeitschrift des Vereins deutscher Ingenieure*, Berlin.

HUGO MUENCH, *Consul*.

PLAUE, GERMANY, *December 24, 1904.*

SLATE TRADE IN ENGLAND.

(*From United States Consul Stephens, Plymouth, England.*)

The slate trade is undergoing an unprecedented period of depression. During the great Penrhyn quarry strike the trade enjoyed an equally unprecedented period of prosperity. The stoppage of works turning out 25 per cent of the output for the whole country naturally gave a powerful impetus to production elsewhere. The foreign producers, principally the French, took advantage of the conditions brought about by the Penrhyn strike and gained what appears to be a lasting footing in England. "From east and west," says one writer, "vessels came in quick succession, carrying slate to the south of England ports, just as though they had been carrying coals to Newcastle." During 1903, 119,805 tons of foreign slate, representing close upon half a million sterling in value, were landed in England. France sent the bulk of it, and for the obvious reason that carriage from France to the south of England is much less than the rates charged by English railway companies for inland carriage.

During the present year, however, the French shipper has suffered in common with the Welsh producer from the prevalent depression produced by the sudden and universal check to the building trade. Still the import of foreign slates continues a great menace to the British industry.

Some idea of the extent of the imports may be obtained from the figures showing the quantity of foreign slates bought in England during the quarter ended September 30 last: From Italy, 383 tons; Norway, 442 tons; Portugal, 1,090 tons; Newfoundland, 1,095 tons; Belgium, 1,315 tons; United States, 3,428 tons; France, 13,341 tons; total, 21,094 tons.

JOS. G. STEPHENS, *Consul*.

PLYMOUTH, ENGLAND, *December 7, 1904.*

IRRIGATION IN THE UNITED STATES AND IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Frankfurter Zeitung, of December 24, 1904, prints an article from which I have translated the following extracts:

The experience with dry summers has called the attention of agricultural technicians to the question of irrigation. The farming interest pays attention to every factor of production except one of the most important—the supply of water—which it leaves to accident, although optional irrigation can influence productiveness in the most extraordinary degree. As to how great this influence is, the opinions of experts differ, the conditions of climate and soil playing an important part; but the opinion is gaining ground that irrigation is one of the chief insurances against crop failures. An article appears in the Periodical for Agrarian Politics with reference to soil irrigation in Germany, which treats of a report by Dr. Traugott Mueller, of the agricultural department, on American irrigation. Doctor Mueller has traveled in the United States in connection with the World's Fair. He writes:

“Just at the moment I had the opportunity to note in the Far West of the United States the development of a vegetation with really wonderful rapidity and luxuriousness, the richness of which, in contrast with the surrounding desert, it is scarcely possible to describe credibly, the daily papers of Europe were filled with complaints over the food famine brought about by the drought. The desert of America had to assist in part to alleviate the wants of Europe. From irrigated farms in Nevada whole shiploads of lucern hay were shipped to Atlantic ports for Europe. The hay was grown upon fields for which the scant water supply had been artificially collected and sparingly distributed, and was sent to lessen the consequences of the drought in Europe, where numerous small and large streams are sending their waters continually to the sea. The question forced itself upon the observer, How is it that this insurance policy is not yet practiced by us? The idea is not a new one with us, but it is a different thing to carry it out. We have known for many years what enormous quantities of fertilizing material our streams and rivers carry off, and we have known how much our acres and the plants thirst at times for water. We also know the fructifying effects of water, even on the poorest soil; but all this has not impressed us with the necessity for economical distribution of our water supply. When this supply was considered at all, it was exclusively for the purpose of navigation, and the result has been only to carry off the water even more rapidly. We also have our dry regions, and above all we have our poor soil districts, which would be greatly benefited by the addition of fertilizing material, and we have in our rivers sources of wealth which would more than neutralize the poverty of the land. They are, however, not available to German agriculture.

“Propositions to come to the rescue of hard-pressed agriculture, to uphold it against the competition of the young productive countries in far-off continents, are legion. An immense amount of force is expended, not to say wasted, in passing political measures, the benefits

of which remain chimerical. They will never bring us that which alone can help the agricultural interest of middle Europe, i. e., increased production at the same or even at a reduced cost of production. A policy which would look upon the water of rivers as an aid to cultivation of the first rank would be an effective means to that end, and if willingness were to be found it would not be difficult to obtain these means."

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *December 28, 1904.*

TECHNICAL EDUCATION.

The following address, entitled "Commerce and Culture," was delivered by Sir Swire Smith, a leading English authority on industrial art and technical education, on the occasion of the distribution of prizes December 19, 1904, at the Central Municipal Technical School of Liverpool, England. The report was transmitted by United States Consul Boyle, of Liverpool.

TECHNICAL SCHOOLS OF LIVERPOOL.

I am glad to be here to-night to bear my testimony to the great educational progress of Liverpool. I made my first acquaintance with your scholastic institutions twenty-two years ago, on the occasion of the visit of the Royal Commission on Technical Instruction, of which I was a member. In 1889 I was invited to address your students on an occasion such as this, and again in 1897, when I played the part of the candid friend in making comparisons that were not flattering to Liverpool regarding secondary education here and abroad. I feel it, therefore, to be a great compliment, after my plain speaking on my last visit, to be invited here again. Within these seven years Liverpool has been mending vigorously and substantially "all the time." In 1897 the average attendance at your elementary schools was less than 100,000; in 1904 it was nearly 117,000. The attendance at your continuation schools increased from 5,500 to 10,700, and your students receiving technical instruction increased in the same period from 6,600 to 11,100.

Your great educational expansion is fitly represented by the opening of this municipal technical school three years ago, which cost £124,000 (\$603,446). You have now in one magnificent block a complete group of public educational institutions—the Brown Free Library, the Derby-Mayer Museum, the Walker Art Gallery, and this Central Technical School—which in their imposing architecture and in their galleries of art treasures, and stores of literature, etc., are probably unequaled throughout the United Kingdom. I hear of two branch technical schools that have been erected at a cost of over £16,000 (\$77,864), and that the Liverpool Institute and the School of Art, which have done so much to uphold secondary and artistic education, have been handed over to the corporation. Then you have as the crown of this educational organization that magnificent monument of the public spirit and generosity of your citizens, the University of

Liverpool, toward which they have contributed £180,000 (\$875,970). Your municipal expenditure on your public schools and your grant of £10,000 (\$48,665) a year to the university are eloquent expressions of the belief of your authorities that the best spent money from the rates is that which is spent in cultivating the brains of the future rate-payers.

You seem to have shown a determination in your educational agencies to give equality of opportunity to rich and poor alike, so that talent, wherever it may be found, may be available for the enrichment of the community. The object of education has been defined as the fitting of the people for their work in life and for their duties as citizens. And surely no more powerful instrument could have been designed for the technical training of those engaged in the multifarious pursuits of Liverpool than this noble building.

MODERN ORGANIZATION OF COMMERCE.

We must never forget that Britain is above all a commercial nation—her existence depends upon her commerce—and only by the labor and enterprise of her people can she provide for their sustenance and raise the vast sums annually required for her purposes of government and defense. How important, therefore, it is that their business training should be thorough and effective. The modern organization of commerce, with its mechanical inventions—the steam engine, the steamship, and the factory system, which have revolutionized the world—were of British origin. For a time this country held a practical monopoly as a manufacturing nation, and her goods displaced those of hand labor wherever they were exposed to competition. Her ships distributed her wares to the uttermost parts of the earth, and brought back the world's products in exchange.

In her enlarging commerce she received little help from the schools, and even less from the universities, for her pioneers were mostly, as Macaulay described them, "ignorant of letters, without art," and in their industrial operations they could only "learn by doing." It is not surprising, therefore, that half a century ago, the wealth of Britain having increased more rapidly than the civilization which should always accompany it, the nation generally showed but little concern for education. In the processes of her commercial evolution she first supplied other nations with her manufactures, then with machinery which she taught them how to use. She loaned her accumulating capital east and west to foreign countries and to her colonies for the building of factories to compete with her own, for railways to carry produce, and large sums for the development and stocking of farms in the United States and our colonies. Her loans went out in machinery and goods, which boomed her trade, and the interest and principal came back in wheat, cotton, wool, timber, etc., which extended the trade of the borrowers, and the exports and imports were mainly carried in British ships.

Britain set up all her rivals against her, she supplied them with mechanical equipment equal to her own, and thus laid the foundation of their prosperity, while it must be admitted she thereby for a time added enormously to her own. It has often been alleged that in selling her machinery so freely to outsiders she "killed the goose that

laid the golden egg," but it can not be disputed that the machine makers had as good a right to sell their wares as the machine users had to sell theirs, and the best foreign machinery has always been freely admitted into this country. Thus, in the very nature of things, Britain surrendered her monopoly beyond redemption, and for the last thirty years or more there has been equality of equipment among the manufacturing nations, and all realize that in the future the greatest success in the world's commerce will be achieved by that nation that can make the most effective use of education, science, machinery, and available advantages, and thus can place upon the shop counters of the world the commodities that the world wants. I have had, in my experience, exceptional opportunities of comparing, face to face with the facts, the resources and the aids which count for success in manufacturing industries in the leading countries of the world. I am fully acquainted with the many difficulties with which British manufacturers have had to contend in their competition with foreign rivals. I know something of the effect upon our industries of the lower wages and longer hours of competing operatives in other countries, and of other factors that have influenced the competition.

SUPERIORITY OF FOREIGN MANUFACTURES DUE TO TECHNICAL SKILL.

This is not the occasion for entering into these questions, but I have no hesitation in giving the unanimous opinion of the Royal Commission on Technical Instruction, recorded over twenty years ago, and confirmed after frequent investigations since that time, that in the most important instances of the ascertained superiority of foreign manufactures, that superiority has been due to the more effective application of the principles of science and art in the making of the goods. British manufacturers in the good old days of their preeminence put their money freely into machinery, and their faith in it, too, while they neglected the human machine. Our competitors procured British machinery and put their money into the brains of those who worked it. While other countries were spending millions on technical schools, Britain declared herself too poor to build them, yet at the same time she was maintaining these foreign schools by buying the product of those who were trained in them. We have since learned to our cost that it is in the physical and intellectual training of her men that Britain must "wake up" and safeguard her commerce. She will never keep out the skill of the foreigner by protecting the ignorance of her own people. But while I feel it my duty to speak of our deficiencies, I am not here to despair.

It is an old saying that Britain is often late, but not too late. She is now up and doing in this great educational movement, and Liverpool is coming into line with her most progressive neighbors. I take no stock in the gloomy forebodings of Britain's decay; I see no handwriting on the wall. It is not your public buildings, nor your docks, nor your shipping—magnificent as are these indications of wealth and prosperity—that make Liverpool, but your men and women. And never in the history of your city were your men and women better equipped for dealing with your ever-expanding commerce and for reaping the fruits of a higher civilization than now. I often wish that the progressive spirit of Lancashire and Yorkshire pervaded the whole country.

RECORD OF THE NATION'S PROGRESS.

Even at present, with severe depression in many parts of the country, which we all hope will soon pass away, the records of the nation's progress have seldom been more encouraging. The value of our over-sea commerce last year amounted to over £900,000,000 (\$4,379,850,000), the greatest achievement that any country has ever known, and the expectations for this year are even more remarkable. The national income has increased from an estimate of £1,200,000,000 (\$5,839,800,000) in 1879 to £1,750,000,000 (\$8,516,375,000) in 1903. The investments of the country at home and abroad are still growing. The profits of business taxable for income tax reached £611,000,000 (\$2,953,431,500) in 1903-4—100 millions (\$486,000,000) more than ten years ago—and every penny of the tax produces over £2,500,000 (\$12,166,250). There is the same record of growth in the investments of the masses in savings banks, cooperative and building societies, etc., and everywhere we find a higher standard of comfort and of civilization than at any period of our history. True, other nations have prospered also; Britain has helped them all; and if only we will keep alert, the greater their prosperity the greater will be our gain. We have entered the twentieth century shorn of our monopolies of the nineteenth, and in the world's race for commerce we are meeting competitors equally armed with weapons of precision.

EDUCATION THE HOPE OF BRITAIN.

Our position will depend on our national supply of "brains and brawn," and how we can best utilize them for the public service. The more I see of the progress of other countries the more do I realize that education is the main factor in the competition that lies before us; in proportion as we can raise the individual efficiency of our people in that proportion shall we hold our own. Some of our industries may be harassed by what we call unfair competition, but we must take consolation from the fact that those nations do not permanently hurt us that compel us to put forth our best. New markets are ever opening up, new wants are arising, and it would appear that the nations of the world were never more dependent on Britain than now, for she is each important nation's greatest customer. Consider for a moment the stupendous fact that this little island possesses half the shipping of the world, and that Liverpool is the common carrier for every country, and the storehouse and market for the greatest of the staple commodities, and also for the odds and ends of both hemispheres. In consequence of the protective tendencies of the competing countries, we are compelled to do a more miscellaneous trade than formerly, and to put ourselves into the position of the "Universal Provider" by supplying just what the world wants.

CHEAPNESS AND EXCELLENCE THE TOUCHSTONE.

We can no more compel our customers to buy what we wish to sell than the angler can compel the trout in the stream to take the fly that he casts. More than ever our manufacturers will have to cater for two important classes of customers—the million who must have cheapness, and the tasteful and wealthy who demand excellence. Under

these watchwords—cheapness and excellence—you find the characteristic productions of our industries represented by the labor of quantity and the labor of quality, in both of which we are destined to stand or fall against the world. In the labor of quantity, in supplying the goods for the millions, in which we have so long been supreme, we must be first in the adoption of all machinery and methods that will insure economy of production. You young men will have to enter the world with open minds, ready to learn all that you can from all sources, and to apply what you learn. In spite of all obstacles there is still, especially in the neutral markets, an immense field open for the trade in common goods for the million, which offers success and fortune to those who enter it with knowledge and with a determination to suit the convenience and taste of the buyers. As for the labor of quality, represented by excellence in the manufacture of superior goods and luxuries, every market in the world is open to it, and may I not say, even in spite of tariffs. This is the trade beyond all others that it is important that Britain should cultivate. It can only be secured by the greatest taste in designing, by the finest knowledge in applying science to industry, and by the most highly trained skill and workmanship. Success in this field means the capture of many prizes now held by our rivals, and the development of industries of enormous value to our home market, as well as to all the wealthy markets of the world.

DISTRIBUTION AND COMMERCIAL EDUCATION.

Then there is that great question of distribution and of commercial education, in which the merchants and shippers of Liverpool are especially interested. I have no objection to the educated foreigners who come to this country and take situations as foreign correspondents. In London, as in other shipping centers, these positions are largely monopolized by Germans and Swiss. A young German wrote not long ago from one of these shipping houses to his friends at home, "You will be sorry to hear that we have still one Englishman in our office." Well, I want to see all Englishmen in Liverpool offices. This school will enable you young men of Liverpool to qualify for Liverpool situations. It will help you to develop local industries; but it will do more, it will cultivate the faculties of many students according to their natural bent, and will enable them to introduce new industries. You have among you great diversity of talent, and a greater variety of industries in your city would proportionately tend to regularity of employment and increased prosperity. The scientific spirit is abroad, and this school will not only supply the technical instruction required by your craftsmen in your local industries, but it will qualify your engineers, electricians, chemists, and other specialists for entrance to the scientific departments of the Liverpool University, where they may obtain instruction that can not be surpassed in any country, and thereby are able to qualify for scientific appointments.

THE NECESSARIES AND LUXURIES OF EDUCATION.

I have read with great interest the exhaustive report of Professor Sadler on the Secondary Education of Liverpool, which I think will be taken to heart in many other cities also. With the spirit of his ideals and conclusions I heartily agree, and it will be a great day for

Liverpool when your educational system is coordinated and organized on the lines which he has recommended. I am well aware that in the opinions which I have expressed I may be charged with taking a somewhat mercenary and utilitarian view of education. It is not, however, that I am indifferent to the higher aspects of this great subject. For more than thirty years I have been intimately associated with the education of my own town, and more particularly with its technical school, through which several thousands of students have passed. Living among them, I have watched the career of many, and can testify to the soundness of their education; yet I confess that some of the most brilliant students and prize winners have not fulfilled the promise of their youth. They have been lacking in grit and energy, some of them looking upon education not as a means to an end, but as an end in itself. I have also known others who by perseverance and character have turned a little learning to good account in many ways and have become leaders of men. I have seen youths and maidens—like many who are here—come to the evening classes in science and other subjects, with a slender equipment of scholastic knowledge, who have soon learned how to learn, and have had implanted in their minds a genuine love of knowledge. And I wish to say in defense of this so-called “bread and butter education” that whatever may be the ultimate object in view of the student, all true education leads to culture. I have known scores of students from the humblest ranks who passed from the half-time factory schools to evening classes like yours, who obtained scholarships to the highest colleges and universities, and are now worthily recognized as men of culture.

I have found among the apprentices from machine shops and factories many whose first idea in attending an evening class was to obtain knowledge that they could turn to practical account in the daytime, but who, after receiving advanced instruction in science were allured to the Elysian fields of literature beyond. Many a student whose habits of study have been formed under the stimulus of bettering his material condition has been led to seek the solace and pleasure that he could get from books that elevated his moral character and contributed to the refinement of his nature. And when we consider the influence of such young men among their associates in the workshops and in the homes, we may realize how the practical studies are all the time mellowing their hearts while they are strengthening their faculties as men of affairs. Thus it is that in considering the broad question of education in relation to the millions who start out in life with no inherited capital but that in their brains and sinews, I am strongly of opinion that the education imparted in such a school as this is not only most fitting in itself for their industrial training, but in most instances it forms the best foundation for the extension of culture, and often acts as a stimulus toward its attainment. My advice, therefore, to the students who are before me is this, “Seek ye first the necessities of education, and the luxuries will be added unto you.”

You will have noted that a controversy has been going on for some time as to the importance of the teaching of Greek in our old universities of Oxford and Cambridge. I do not think that you and I need to be seriously concerned about this question. I am reminded of the mischievous schoolboy at Eton who wrote on the door of the classical professor, “This road leads to nowhere.” When the professor saw

the inscription, he wrote underneath it, "Nevertheless a good road on which to take exercise"—surely a terse and witty answer. But the answer reminds me of another story of a wealthy manufacturer, and one of the pioneers of the wool industry of Bradford. He had contracted some ailment, and he called in his medical man, who prescribed that he should get some dumb-bells and take vigorous gymnastic exercises. "But," asked the patient, "would not exercise in my factory do as well for me?" "Quite as well," replied the doctor. And this rich manufacturer could be seen perspiring among his workmen, packing the bales of pieces and loading them on to the wagons. He said he "didn't believe in doing work that didn't bring something in." Your technical instruction, like Greek, will give you good exercise, and yet, unlike Greek, will bring something in.

I have no fear that this country will suffer in its highest interests from too much attention being paid to the utilities of life. It is not so much what a young man learns as the spirit in which he enters upon his studies that determines the formation of his tastes, and culture is the bourn toward which the searcher for knowledge is ever tending, no matter in what field that knowledge may lie. I heartily accept Mr. Ruskin's definition as upholding the line which I have presumed to take on this question. He says, "Education briefly is the leading of human souls to what is best, and making what is best out of them; and these two objects are always attainable together, and by the same means; the training which makes men happiest in themselves also makes them most serviceable to others. I believe that what it is most honorable to know, it is also most profitable to learn, and that the science which it is the highest power to possess it is also the best exercise to acquire." Emerson taught that "the acquisition of some manual skill, and the practice of some form of manual labor, were essential elements of culture, and this idea has been more and more accepted in the systematic education of youth." Would that it had been accepted in England, as I have found it accepted in America.

PRACTICAL EDUCATION AND LITERARY CULTURE.

As to the bearing of the practical side of education on literary culture, Mr. Henry Smith Williams, in an article on *The Literature of Science*, shows by remarkable examples that some of the greatest masters of literary style have been men of scientific training. I select the following among many:

"Buffon, famed a century ago for his mastery of literary style, was by profession a naturalist. Dante was learned in every phase of the known science of his time. Keats, 'one of the few writers of his time whom critics have ventured to name in the same breath as Shakespeare,' was trained in the profession of medicine. Goldsmith was a practicing physician; so also was Schiller, the second poet of Germany. Goethe, 'whose genius raised the German language to a new plane as a medium of literary expression,' would be remembered as a discoverer in science had he never penned a page that can be called literature. Darwin's *Origin of Species* owed much to the form of its presentation, but much more to the greater artist. Huxley, in *Man's Place in Nature*, and in a score of other essays, brought all the resources of a marvelously flexible literary style to the aid of the equally revolutionary doctrines that Darwin had inaugurated. It is well to remem-

ber also among the teachings of history that material prosperity in the true development of civilization must go hand in hand with intellectual culture, and none have more ardently desired the spread of the latter than those who were in their day the great economic pioneers of the former."

Earl Stanhope said that—

"In Athens the study of the arts and the acquirements of literature were united and made to flourish by the pursuits of commerce. For while those great speculations in philosophy were being pursued in the groves of the Academy, and while Phidias was raising the masterpieces of his art—at that very time ships from every clime then known were crowding the wealthy ports of the Piræus."

Your own illustrious townsman, William Roscoe, so long ago as 1817, at the opening of the Liverpool Royal Institution, in an eloquent discourse, remarked:

"We find that in every nation where commerce has been cultivated upon great and enlightened principles a considerable proficiency has always been made in liberal studies and pursuits. * * * Under the influence of commerce the barren islands of Venice, and the unhealthy swamps of Holland, became not only the seats of opulence and splendor, but the abodes of literature, of science, and of the fine arts, and vied with each other not less in the number and celebrity of eminent men and distinguished scholars than in the extent of their mercantile concerns."

Lord Beaconsfield, in an address to the students of the Atheneum at Manchester, sixty years ago, declared:

"It is knowledge that equalizes the social condition of man, that gives to all, whatever may be their political position, passions which are in common and enjoyments which are universal."

Here is the testimony of the great Lancashire man, who was described by Mr. Gladstone as the "inspired bagman." In 1844 Mr. Richard Cobden said:

"There will be but one test for the future greatness of Manchester, and that will be a mental test and not a material test—that our destiny will be decided not by the expanse of bricks and mortar, not by the multiplication of steam engines, nor by the accumulation of wealth, but just in proportion as mental development goes forward, and in proportion to the development of wealth and mental resources, just in the same proportion will our destiny be exalted, or the very reverse."

At Manchester also, in 1847, the second great apostle of the "Manchester School," Mr. John Bright, spoke in a similar strain. After enumerating some of the examples of the commercial progress of the country, he asked:

"With these increased comforts and advantages that we enjoy, shall we neglect that which is most noble because it is the indestructible portion of our being? Shall we be victors in the material world only, and gain no laurels in the intellectual? Or shall we dive to the deepest depths and soar to the loftiest heights; growing in mental stature and adding to all those outward blessings that surround us—yet neglect those which are purer and more lasting, and which spring up as a rich harvest from the culture of the mind?"

Here we have the loftiest and most eloquent tributes to culture from the most eminent promoters of trade and commerce that this country has produced. I could give many others, but I will content myself

with a brief appreciation of this same culture by the greatest industrial leader and the most generous friend of technical education of our time—nay, of all time—Mr. Andrew Carnegie. In his rectorial address to the students of St. Andrews, he said, “Of what value is material compared with moral and intellectual ascendancy—supremacy not in things of the body, but in those of the spirit? What the barbarous triumphs of the sword compared with those of the pen? What the action of the thews and sinews against that of godlike reason, the murdering savage armies of brutal force against the peaceful armies of literature, poetry, art, science, law, government, medicine, and all the agencies which refine and civilize man, and help him onward and upward?”

And so to sum up, I rejoice in the assurance that the technical and scientific training which this great school is imparting to so many of you is not only providing each of you with working capital that can be utilized in the development of the industries of Liverpool, but is “leading your human souls to what is best” in the cultivation of your higher intellectual faculties. We sometimes speak of Britain as the “old country,” as if it had seen its best days and was entering upon its period of decay. It is venerable in years, and perhaps it clings rather tenaciously to some of its old-fashioned customs and ways; but it retains its vigorous strength, its love of freedom, its unbounded energy, its doggedness of purpose, and there has been no falling away in the breed and stamina of its people. It is when we see the young men and maidens of our country gathered together as they are here to-night that, as Burns says, “Hope springs eternal on triumphant wings,” and we feel assured of the enduring qualities of our race and of the perpetual youth of our country.

AGRICULTURAL MACHINERY IN CYPRUS.

(From United States Consul Ravndal, Beirut, Syria.)

In connection with my report “Our trade opportunities in Cyprus” (Daily Consular Reports, July 2, 1904), and in corroboration of my statement “As in Syria, so in Cyprus, the age of machinery is dawning,” I submit the subjoined extract from the annual report of the agricultural department of the government of Cyprus for 1904. Commission merchants in Beirut, representing American manufacturers of agricultural machinery, windmills, petroleum engines, etc., are making efforts to enter the markets of Cyprus. The total foreign commerce of Cyprus amounts to about \$5,000,000, nearly equally divided between exports and imports.

American exporters who wish to deal directly are referred to P. J. Louisides & Co., Larnaca, Cyprus.

EXTRACT FROM THE ANNUAL REPORT OF THE AGRICULTURAL DEPARTMENT OF THE GOVERNMENT OF CYPRUS FOR 1904.

The Almighty heard the prayers of the farmers of the island, who for two years irrigated the land with the sweat of their brows yet

gathered little, and He sent during the past year sufficient and seasonable rains. Thanks to these rains, after two years of scarcity, a cereal harvest unique in the annals of Cyprus was secured, amounting to about 7,000,000 kilés (175,000 tons), as against 4,400,000 kilés (111,000 tons), which represents the yearly average for the ten years previous to the year 1903. This abundant harvest not only relieved the agriculturists but also contributed to the progress of the work of the agricultural department, because it served to make the advantage of harvesting the products of Ceres by means of machinery still more palpable.

During the past year the six reaping machines which had remained for two years in the stores of the department were disposed of within a short period. On the one hand, these, together with a good many which had been imported in previous years, facilitated considerably the seasonable and economical reaping of a large portion of the crops and at the same time silenced unfavorable reports concerning them by proving their invaluable utility and the ease with which they can be handled. On the other hand, the government steam thrashing machine, which was specially made to meet the requirements of the island, also worked satisfactorily, and the various idle reports with regard to the quality of its work were proved to be absurd. As the expert Abbot of the Holy Monastery of Kykko demonstrated, this machine not only turns out sound, more abundant, and cleaner corn, but also fine and more abundant straw, free from foreign matter.

By the native process of thrashing, the straw produced is less in quantity and dirtier, and the corn obtained is likewise less and mixed with a variety of foreign substances. During thrashing a not insignificant part of the crop is eaten by the animals, and during winnowing the lighter grain is carried away with the straw, of which a large part is scattered by the wind into the surrounding fields and is lost. Both the straw and the corn are always mixed with a considerable quantity of earth. Moreover, the straw contains dirt and the corn a multitude of stones and a variety of heterogeneous seeds, resulting in the lower prices which the crops of Cyprus command in foreign markets, compared with the prices of the crops of other countries.

The slowness with which the native system of thrashing is carried out and the excessive labor which it imposes on plow cattle are also most important disadvantages. When thrashing is over these cattle are in absolute need of complete rest for at least a month, and a further consequence of the slowness of the native system of thrashing and of the labor which it inflicts on the cattle is the postponement of the plowing of the land, resulting in late sowing in a country in which the early sowing of cereals is safest.

Mr. Pollok, the progress-loving proprietor of Pergamo Chiftlik, having also perceived this, followed our example and imported last year a thrashing machine similar to that of the government, which worked well at Pergamo and elsewhere. The manager of the Margo Chiftlik, in which the government machine was in operation last year, having also observed the great advantage of thrashing by machinery, ordered one similar to it for use on the estate under his management. This machine has arrived and will work there during the present harvest.

We are therefore convinced that everybody, perceiving the great benefit which accrues to individuals as well as to the government by the use of machinery in harvesting cereal crops, will encourage and

support their introduction and employment. Whether such machines should be big or small, whether they should be obtained from the firm of A or B, or be driven by steam power or not, are questions which we shall not enter into here. These questions depend entirely on local requirements and are often put forward by persons who, for one reason or another, are opposed to such innovations, to furnish a pretext for discussion and in order to arouse misgivings. Among those who are averse to such innovations are those who are attracted by the picturesque and poetical aspect of the native mode of reaping and thrashing. I must confess that from a poetical point of view the dulcet sound of the bells of the scythe of the Cypriot reaper can not be compared with the continuous, monotonous thrump of the thrashing machine, and that the suffocating atmosphere which surrounds the thrashing machine and the whirling and dizzying motion of its parts can not inspire the artist like the view of the oxen drowsily moving round the thrashing floor and dragging the thrashing boards over the corn. But the poet and the artist will agree with me that by pictures and poetry the granaries of the farmer and the government are not filled.

I should further remark that as the Cypriot is naturally apt and intelligent, he understands and easily carries out any mechanical work, and there is therefore no danger of there being a deficiency of machine drivers in case of a large number of machines being imported. Moreover, all necessary repairs can be carried out in the island by the numerous skillful blacksmiths in the towns and villages, and especially at the well-appointed machine shop recently established at Limassol; besides, new extra pieces for reaping and thrashing machines to substitute any damaged piece can, when ordered in time, be obtained from abroad.

I have considered it proper to allude to the above matters in order to make clear the inutility of further discussion or of raising doubts as to whether the country is or is not yet ripe for the employment of machinery.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *December 26, 1904.*

IMPORTS INTO THE TRANSVAAL.

(*From United States Consul Proffit, Pretoria, South Africa.*)

The quantity and value of goods imported into the Transvaal for the nine months ended September 30, 1904, indicates a decrease as compared with the corresponding period of 1903. This may, in part, be accounted for by the fact that for the period shortly following the war large consignments of over-sea goods had been detained at the ports awaiting the cessation of hostilities. These goods were brought into the country as soon as sufficient truckage facilities could be provided, and to many of the Transvaal merchants the result was a large overstocking. It is worthy of note that while many lines of merchandise show a decided decrease both in quantity and value, those lines appertaining to the country's premier industry—mining—show an increase which is highly gratifying.

For nine months ended September 30, 1904, goods were imported to the value of \$49,515,433.96, as against \$75,146,577.74 for the corresponding period of 1903.

A comparative statement giving the more important items of import for the six months ended June 30, 1903 and 1904, is given below.

Value of the principal imports into the Transvaal for the six months ended June 30, 1903 and 1904.

Commodity.	1903.	1904.
Ale and beer.....	\$196,520.86	\$223,825.20
Agricultural implements.....	566,415.09	205,665.23
Cattle.....	93,625.75	275,666.85
Horses.....	419,445.91	319,442.78
Sheep and goats.....	526,367.43	395,648.54
Chemicals and toilet articles.....	1,062,215.18	985,464.54
Cyanide of potassium.....	897,390.03	634,380.81
Flour and meal, wheat and other kinds.....	2,224,840.54	1,768,447.65
Confectionery.....	283,487.57	263,147.65
Coffee.....	476,404.53	326,169.82
Candies.....	559,134.44	520,690.66
Butter.....	1,061,212.83	745,118.09
Biscuits.....	297,488.82	215,448.80
Boots and shoes.....	2,216,176.29	1,394,490.98
Furniture and cabinet ware, including carpets.....	2,721,755.64	1,248,638.78
Cotton manufactures.....	1,235,962.33	795,952.80
Oat hay.....	979,277.43	446,461.86
Cement and lime.....	154,505.62	115,206.37
Spirits.....	1,508,097.77	884,036.79
Vehicles.....	2,271,411.83	970,279.32
Lumber and timber.....	4,110,070.59	1,928,126.44

As showing the relative importance of the South African ports with reference to Transvaal imports the following figures are interesting:

Imports into the Transvaal via Natal, Cape Colony, and Lourenço Marquez in 1903 and 1904.

Ports.	1903.	1904.
Natal.....	\$32,141,284.11	\$21,990,699.28
Cape Colony.....	30,328,153.40	18,193,297.30
Lourenço Marquez.....	12,451,140.23	9,341,506.38

IMPORTS INTO THE TRANSVAAL BY COUNTRIES.

It is to be regretted that the figures showing countries of origin are not at present available. The same are promised shortly, and a supplemental report will then be made.

The following countries are engaged in the South African trade: The United Kingdom, the United States, Germany, France, the Netherlands, Austria, Australasia, Argentina, Canada, Norway, Sweden, Denmark, Portugal, and Belgium.

The United Kingdom, of course, takes first place in nearly every article of import, while Germany and the United States run very close for second place. In the items of boots and shoes, agricultural implements, hats and caps, wheat, flour, electric fittings, dried and preserved fish, groceries, preserved meats, furniture, mineral oils, paints, tur-

pentine, vehicles, carts and carriages, and manufactured wood, the United States ranks easily next to the United Kingdom.

Germany follows the United Kingdom in the following articles: Beer, apothecary ware, apparel, stationery, cement and lime, cheese, cotton, cutlery, dynamite and other explosives, earthenware, haberdashery and millinery, hops, musical instruments, manufactured leather, mineral water, paper, plated ware, tramway material, and brush ware.

CHINESE LABOR IN THE MINES.

Transvaal commerce has passed through the greatest depression known to its history. Complaints from merchants have been very prevalent, the bankruptcy courts have been working overtime, and failures in nearly every line have been reported. The country's prosperity has depended upon the mining industry, the condition of which for nearly the whole period following the war has been somewhat lethargic pending the settlement of the labor question. This question has now been settled, the arrival of Chinese laborers removing the acute phases of the problem. The mine owners report their adaptability for work on the Rand, and it is stated that at an early date each mine will have its complement of Chinese laborers. This will undoubtedly produce the business revival so long hoped for and expected, for the old mines will then be working their full equipment, and in addition new territory will be thrown open and new mines opened, thus producing an increased demand for nearly every article of commerce.

TRADE OUTLOOK.

The current number of The British and South African Export Gazette has the following to say:

With accumulations of stocks reduced to a normal level, and the greater facilities now being cautiously extended by the banks, there should soon be an all-round improvement that will be appreciably felt in manufacturing centers. * * * Several factors are assisting to this end. In the first place there are actually 12,000 Chinese now at work or due to arrive on the Rand within the next week or two, and the excellent work being done by them in the mines should shortly have an appreciable effect on the gold output.

Secondly, there is the important information to hand of the use of tube mills in crushing operations * * * which to all intents and purposes will double the output at practically little or no increase in working cost. The effects of this innovation will begin to be felt in a few months' time, and with an enlarged output the stock exchange can not fail to respond, with the result that more commercial firms and others who are unable to realize their holdings without loss will be placed in an easier position, with the consequent reduction of the tension on the money market from which they have suffered for so long, and which has so seriously impeded their business operations. Altogether, therefore, South African trade may be said to be steering into smoother waters, and the immediate outlook is unquestionably much brighter than has been the case for months past.

OUTLOOK FOR AMERICAN TRADE.

American exporters may expect to find increased markets here for a great many lines, chief among which may be mentioned machinery of all kinds, tramway materials, boots and shoes, hats and caps, groceries, tinned goods, furniture, agricultural implements, electric supplies, and glassware.

To speak frankly, our exporters have not proceeded in the proper manner to capture their fair share of the trade. Many of them send representatives to South Africa who are content to go back home with good orders, trusting that the goods once introduced will in future sell themselves. The idea is erroneous. The trade must be lived with. Representatives must be constantly here, lest they find themselves supplanted in the favor of the South African merchant. The English and German houses have in many instances adopted the plan of joining together and sending a common representative whose duty it is to push several different lines. The cost of maintaining a representation is thus lessened, and their wares are kept always before the eyes of the local buyer. The method has proved very effective, and the example might well be followed by our American houses.

JOSEPH E. PROFFIT, *Consul*.

PRETORIA, TRANSVAAL, *December 1, 1904*.

SHANGHAI-HANGCHAU-NINGPO RAILWAY.

(From United States Consul Anderson, Hangchau, China.)

The officials of Chekiang province and Chinese officials generally who are concerned in the construction of railways in China are complaining that the British concessionaires are doing nothing with the concession for a railway from Shanghai to Hangchau, and thence to Ningpo on the coast. The concession was given to British interests about four years ago, but, unfortunately for the enterprise, no time limit was fixed within which work on the railway was to commence. The syndicate owning the concession seems to have been altogether unable to secure the funds necessary for the prosecution of the enterprise and it has lagged, and promises to lag indefinitely. Meanwhile the Chinese officials are fretting, for there are a number of other capitalists anxious to take up the work if the British syndicate fails to act or is prevented from doing anything by the concession now in force. It is possible that in the near future the Chinese authorities will take the matter up in earnest and insist that the work under the concession be prosecuted in good faith within a reasonable time or that the concession be surrendered.

The officials of the province, with few or no exceptions, express themselves as anxious for the construction of the railroad. The busi-

ness men of Hangchau, Ningpo, Kashing, Shaoshing, and other points which the road will touch, are also anxious for its construction. At the time the concession was granted this was hardly the case, there being a number of reactionaries in the provincial government, and a large element in Chinese business circles was opposed to the construction of the road because of "fung shui," or "bad-luck" superstitions. The general spirit in official and business circles here at the present time is progressive, and there is full opportunity for modern improvements if the necessary capital can be had. So far, the British railway projectors have been unable to raise the money needed or to make any definite and reliable promises as to when they will be able to raise it.

The proposed road ought to be one of the best short railways in China. It will run through the richest province in the Empire for about 250 miles, connecting two of the original treaty ports, tapping good cotton, tea, silk, and rice country, and coming within reach of coal lands of immense promise. Good building stone is also being taken from the low mountains near which it will run. The country it will serve is very populous and the people are more prosperous than those of almost any other similar district in China. Last year the steam launches between Shanghai and Hangchau carried 169,642 through passengers, having carried 177,659 the year before, all at rates which are certainly as high, all things considered, as any railroad would charge. The establishment of comparatively rapid transit between these two points would develop a large business. The amount of freight carried between Hangchau and Shanghai and between Ningpo and Shanghai and Hangchau and Ningpo is enormous. While the Grand Canal and its connections would continue to carry a large share of this business, a railroad would have very good opportunities for large and satisfactory earnings.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *December 7, 1904.*

PATENT MEDICINES IN NEW ZEALAND.

(*From United States Consul-General Dillingham, Auckland, New Zealand.*)

The Auckland Star says that when the chemists in this colony are able to divert their attention from the "shops act," on which I have reported, they will doubtless have something to say about the new regulations just gazetted for the sale of patent medicines. In accordance with the terms of the public health act of 1900, the governor in council has proclaimed that all patent medicines on sale here must bear, legibly printed in English upon the wrapper, a statement of their contents and the exact proportions in which these are compounded. When any of the medicines contain any of the poisons

included in the sale of poisons act schedule the words "This contains poison" must be clearly printed on the label. A penalty of \$25 is attached to the offense of affixing to these medicines any but the genuine formula, and it is evidently the intention of the public health department to see that the new regulations are literally and strictly carried into effect.

It is not very easy to conjecture the exact effects of such rules upon the sale or importation of patent medicines. The chief point seems to be the probable difference made to the value of proprietary remedies by the publication of the recipe. Some attempt has been made to get at the opinion of local chemists on this point, and the investigations, as published in the *Star*, seem to show that while there may be no serious objection on the part of the proprietors of patent medicine to stating the ingredients of their remedies on the wrappers they would probably object very strongly to stating the proportions in which they are mixed. Ordinary analysis will, of course, reveal the constituents of many such medicines, but organic compounds are very difficult to analyze, and it is the opinion of competent authorities both in Auckland and Wellington that such a statement of the formula as the new regulations require would be practically a publication of the secret covered by the patents. This would of course very largely destroy the value of the patent rights, and it is not to be supposed that the proprietors of remedies which are lucrative only because their composition is a secret would be prepared to risk their sale in this colony if the proprietary rights were thereby depreciated. It is thus very likely, says the *Star*, that the enforcement of the new regulations would result in the exclusion from the colony of a number of valuable remedies which are now largely in use here.

It must be remembered that many so-called "patent" medicines are admitted by the medical profession to be of great value, and are frequently recommended by doctors to their patients. In the country districts more especially, where doctors are few and far between, patent medicines are very popular and often prove a very efficient substitute for regular medical prescriptions. It would be a distinct hardship to a large number of colonies that such remedies should be driven out of the country because their proprietors do not feel inclined to sacrifice their valuable rights by allowing the world at large to gain knowledge of their composition. The *Star* is inclined to think that some convincing reason is required to justify this attempt to regulate the sale of patent medicines. Medical advice is generally expensive, and it seems somewhat arbitrary to refuse the poorer classes, who are naturally the largest consumers of these remedies, the right to procure many cheap, harmless, and effective medicines, which would probably be no longer available in New Zealand if the new rules were put in force.

The order in council of course applies to locally made mixtures as well, but these are not generally of such high commercial value as imported proprietary medicines and are not so widely employed. It may also be pointed out that the list of medicines that come under the new regulations include several mixtures merely stocked by chemists to fill doctors' prescriptions, and that the "inter alia" clause leaves room for the public health department to include almost any conceivable mixture in its schedule. The new regulations may possibly benefit doctors by reducing the sale of proprietary mixtures, and they may help the colonial druggists by checking the competition of imported medicines. But beyond this the Star does not think that they are likely to produce much effect, and if they drive foreign patent remedies out of the market they will inflict a serious hardship on the poorer classes, who can not afford to pay for professional medical assistance.

F. DILLINGHAM, *Consul-General.*

AUCKLAND, NEW ZEALAND, *November 28, 1904.*

TOWELS AND SOAP IN CHINA.

(*From United States Consul Anderson, Hangchau, China.*)

TOWELS.

About a year ago a native of Taichau, in the customs district of Wenchau, Chekiang province, established a towel factory at Taichau. and it seems to have been quite a success. A soap factory was established at Wenchau also last year, and this, too, has been a success. Soap-making establishments in this district are not extensive, but they are profitable and the business will rapidly develop. There is a strong demand for soap and towels in much of China, although imports of both articles in the past year or two have decreased. In 1901, Hangchau imported 8,250 dozen towels, valued at \$2,532. In 1902 it imported 9,282 dozen towels, valued at \$3,184, and in 1903, 7,801 dozen. valued at \$3,154. The increased price probably explains the whole story. The sort generally imported are of rather light weight, many of them 18 by 40 inches in size and practically all of Japanese make. The imports at Ningpo are in almost the same volume and practically at the same prices. At Wenchau imports have been light, 2,453 dozen. valued at \$1,019, having been imported last year. The imports this year will probably be much less. The decrease in towel imports, however, is merely in keeping with the decrease in other common cotton goods, and represents a question of price. When cotton goods of foreign manufacture become too dear in China the Chinese do without them.

The extraordinary cheapness of towels, 86 cents Mexican or about 40 cents gold per dozen on the average, seems remarkable, but the customs authorities assure me this is a fair valuation. The quality is very poor and the weight light.

SOAP.

The record in soap imports shows a decrease in quantity and in value.

Imports of soap into Hangchau, China, in 1901, 1902, and 1903.

Year.	Bar.		Toilet.	
	Quantity.	Value.	Quantity.	Value.
	<i>Pounds.</i>		<i>Pounds.</i>	
1901.....	487, 871	\$45, 007	5, 187	\$972
1902.....	317, 870	28, 924	3, 724	840
1903.....	645, 316	21, 312	.....	580

It is significant that while the imports of bar soap at Ningpo last year were 356,041 pounds, valued at \$9,370, and 7,496 dozen cakes of toilet soap, valued at \$1,969, there were also imports from native sources of 41,629 pounds, valued at \$1,005. The fact that any place in China has come to manufacture more soap than it can use may naturally be considered of some importance.

The value of the figures given lies in the fact that they show a big demand for soap and towels when the prices are such as to bring them within the reach of Chinese consumers. The lower the prices the larger the number of people who can afford to use them and the greater the sale in proportion. The difference of several cents a pound on soap in Hangchau between 1901 and 1902 made a difference of about 40 per cent in value and 80 per cent in quantity, the classification as to quality remaining the same. The demand in China is steady and strong, but the soap must be cheap. Soaps of low quality, highly scented, and gaudily decorated are popular for the toilet. The bar soaps must be very cheap, and, apparently, Chinese laundry arrangements do not contemplate any saving of fabrics by the use of substances which will not injure them. The first great requisite of soaps and everything else in China is cheapness. Most of the soaps now imported come from Japan, generally with bogus European marks. Some European soap makers, however, are making an effort to get some of the trade. American goods, if put out cheaply enough, would be readily taken.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *December 5, 1904.*

AMERICAN GOODS FOR CENTRAL AFRICA.

Under date of January 25, 1905, the Assistant Secretary of State, Mr. Loomis, transmits the following interesting communication to the Secretary of the Department of Commerce and Labor:

ST. CHARLES HOTEL,
New Orleans, La., January 20, 1905.

MR. SECRETARY: Possibly your great interest in extending the foreign commerce of this country may make you glad to know that I am now shipping to Central Africa by way of Habana and Teneriffe the first direct American cargo for that part of the world. I have found that this route saves a good deal of time and money, and makes it possible to send American goods to Africa without having to go through two or more European ports. As you are doubtless aware, there is an occasional direct steamer from this country to Cape Town, but that is the only direct communication, and none of those boats call at any other African ports, so far as I know.

This route which I have selected has the advantage of being regularly established, so that one can get a good steamer all the way at least once a week. Goods can be shipped direct to Central Africa this way, and the only duties payable are that of 6 per cent at the port of Matadi, on the west coast of Africa, with a nominal amount of charge for consular fees at the office of the Cuban consul here and that of the Spanish consul at Habana, these latter fees being for securing transit through the ports of Habana and Santa Cruz de Teneriffe.

I shall not here enter into details concerning this new movement, but wish merely to inform you of it, and to offer to give the Department any information which I shall collect on this next trip if it should be desired.

* * * * *

S. P. VERNER.

CANADIAN AND AMERICAN WHEAT.

Under date of January 13, 1905, United States Consul-General Holloway, of Halifax, Nova Scotia, transmits the following article from the Halifax Maritime Merchant:

If the proposition to allow a drawback on flour ground in American mills from a mixture of American and imported wheat, and then exported, is not carried out before this issue of the Merchant appears, there is at least every indication that it will become a law in the United States very soon. The price of wheat in the United States is 16 cents higher than in Canada, and the American mills are suffering from the competition of Canada and other countries on the one hand and the increased capacity of British mills on the other. The fear is entertained that unless something is done the export trade may entirely pass out of the hands of American mills and be forever lost. We note that in 1904 the exports of American breadstuffs were \$82,604,588, as against \$176,592,412 in 1903,^a a decline of over 50 per cent. The Secretary of

^aOur exports of breadstuffs during the years ended June 30, 1903 and 1904, as published by the Bureau of Statistics, Department of Commerce and Labor, were as follows: 1903, \$221,242,285; 1904, \$149,050,378.

the United States Treasury seems to speak favorably of the proposed movement, and it seems that the decision of the Attorney-General is likely to be favorable to the plan. This would in all likelihood have an effect on Canadian flour prices, as it would encourage the export of Canadian wheat. We saw a telegram recently from a Canadian miller in which he said that "it looks as if the movement on the part of the United States Government to admit wheat free of duty will before long boom Canadian wheat."

TRADE AT LOURENÇO MARQUEZ, PORTUGUESE EAST AFRICA.

(From United States Consul Hollis, Lourenço Marquez, Portuguese East Africa.)

Customs statistics just published give the trade of this port for the nine months ended September 30, 1904, as follows: Imports for local consumption—From Portuguese countries, \$1,573,540; from all other countries, \$2,938,857; imports in transit to Transvaal, \$11,498,952; total imports, \$16,011,349; exports and reexports, \$2,423,293; coast-wise trade, \$1,262,370; total trade, \$19,697,012.

No statistics as to imports by country of origin have been published.

By comparing these figures with those transmitted with my report of August 2, 1904, published in No. 2093 of the Daily Consular Reports, it will be seen that, notwithstanding the fact that there has been a great decrease in the declared values of goods imported at the various British South African ports in 1904, Lourenço Marquez has practically held its own, and has secured a greater percentage of the total South African trade than it had last year.

American trade with and through this port is in a very healthy condition.

W. STANLEY HOLLIS, *Consul*.

LOURENÇO MARQUEZ, PORTUGUESE EAST AFRICA,

December 9, 1904.

CHINESE LABOR AND BRITISH COLUMBIAN MINES.

(From United States Consul Smith, Victoria, British Columbia.)

It has been found impossible to successfully work hydraulic mines in many portions of British Columbia at the prices paid for white labor, and in consequence an effort is to be made again next season to introduce Chinese labor in the hydraulic mines at Atlin, in the northern section of this province. A few years ago a number of Japanese were taken into the district for this purpose, but in consequence of the determined opposition of the local miners' unions the mine owners were compelled to abandon their intention in the matter. Since then

the conditions have considerably changed, there being far fewer white miners in the district than formerly, while it has been clearly shown that it is not possible to profitably operate many of the Atlin hydraulic properties without largely reducing the cost of labor. Under these circumstances it is probable that there will be less opposition to the contemplated employment of Chinese labor, particularly as it is proposed to increase the wages of white miners now in the district, who will be employed as foremen or overseers. In other cases the labor problem is being solved in a different manner by the adoption of a method of placer mining by means of dredging, a practice which has given excellent results in California.

ABRAHAM E. SMITH, *Consul.*

VICTORIA, BRITISH COLUMBIA, *January 13, 1905.*

INTERNATIONAL MILLING AND BAKERY EXPOSITION, PARIS.

(*From United States Consul-General Gowdy, Paris, France.*)

An international exposition of milling and all connected trades will be held in Paris, at the Galerie des Machines, from April 29 to June 4, 1905. The committee in charge reserves the privilege of prolonging the period for a time, if desired.

All exhibits from abroad will be allowed to enter France free of duty, to be reexported at the termination of the exhibition, which for the purpose will be considered as a bonded warehouse. Inquiries of those desiring to exhibit or take part should be addressed, before the end of March, 1905, to Mr. G. Cornibert, commissaire-général, 29 Rue Jean Jacques Rousseau, Paris. Exhibits must be delivered at the Galerie des Machines, Paris, by April 24, 1905.

The different sections proposed are as follows: (1) Social economy; (2) general milling; (3) bread and confectionery; (4) pharmaceutical and chemical; (5) lighting, heating, and ventilation; (6) machines and motors; (7) different processes; (8) dress and hygiene; (9) agricultural and horticultural; (10) practical information, congress, and conferences.

JOHN K. GOWDY, *Consul-General.*

PARIS, FRANCE, *January 7, 1905.*

GROWTH AND POPULATION OF BERLIN.

(*From United States Consul-General Mason, Berlin, Germany.*)

The results of the census taken in Berlin, December 1, 1904, have been tabulated and published. They furnish material for some very interesting deductions concerning the growth of the German capital,

and especially the influence of improved modern interurban transportation on the distribution of the population.

The first statistics to be published were those of Berlin proper, and showed that the city, which had on December 1, 1900, 1,888,848 inhabitants, had attained on the same date in 1904 a population of 1,996,708, or only 3,292 short of 2,000,000. As this, however, indicated a growth of only 107,860 in the population in four years, there was a feeling of disappointment until the returns from the suburbs began to come in.

Berlin is built on a level, sandy plain, which stretches away like a western prairie, so that lateral expansion in every direction is easy and natural. Thirty or forty years ago the city was surrounded by a chain of villages, Charlottenburg, Wilmersdorf, Schöneberg, Steglitz, Rixdorf, Lichtenberg, Sudende, Pankow, etc., at distances of from 2 to 4 miles from the center of the municipality. As the capital continued to grow it spread out and joined these suburban towns, which nevertheless continued for various reasons to maintain their separate and distinct corporate autonomy. These reasons were, mainly, that the suburban towns could not be annexed to Berlin without assuming a higher standard of paving, street lighting, sewerage, street cleaning, etc., which would entail loss of municipal independence and increase of local taxation; and that Berlin could not absorb all its ambitious and rapidly growing suburbs without becoming responsible for their maintenance and administration at the high and costly standard which had been set by the capital of the Empire. And so the various suburbs, which have been reached and enveloped by the expanding city until no one can say, from appearances, where Berlin ends and Charlottenburg, Wilmersdorf, Schöneberg, or Rixdorf begin, have remained legally distinct, while three-fourths or more of their population do their work and earn their living in Berlin. Taxation and land values being lower in the suburbs, living is cheaper there, so that a great army of working men and women, of every grade and occupation, come in from their homes in the morning and return at night. This daily ebb and flow of the industrial multitude has given the electric street railway system of Berlin its phenomenal development, and made it one of the most extensive, complete, and effective institutions of its kind in the world. Under these conditions it is but natural that the principal suburban municipalities should show a growth entirely disproportionate to that of the main city.

By the census of December 1, 1900, the aggregate population of the 22 suburban towns and cities which form the outer fringe of Berlin was 683,178, which, added to that of Berlin itself, gave a total of 2,572,026 inhabitants. By the census of December, 1904, the same suburbs show a population of 886,377, a gain of 203,197 souls in four years, which, added to the gain of 107,860 in Berlin proper, gives a net increase of 321,059, or an average of 80,264 per annum. The

present enumeration, therefore, raises the German capital, counting only the territory and people who in fact do business in and belong to the city, to a metropolis of 2,863,088 people, with a reasonably certain prospect of passing the 3,000,000 milestone some time in 1906.

It would be interesting to know how much of this steady increase has been due to migration—the removal of people from country districts and other cities to the capital—and how much represents the natural increase of this vigorous and prolific race. Unfortunately the statistics do not reveal this, and we are left to draw what inference is most obvious from the archives of the bureau of vital statistics, where the records of births and deaths are kept with characteristic thoroughness and accuracy. From this evidence it appears that during the seven years from 1894 to 1900, both inclusive, the excess of births over deaths for every 10,000 inhabitants of Berlin varied from 81 in 1895 to 108 in 1897, with an average of 94 per annum. With a total population of, say 1,800,000, this excess of births over deaths alone would give a net annual increase of 16,920 souls, so that nearly four-fifths of the rapid growth of population in Berlin and its suburbs remain to be accounted for by migration from the rural districts, other German cities, and immigration from foreign countries.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *December 30, 1904.*

FAILURE OF A CHINESE CAMPHOR MONOPOLY.

(From United States Consul Anderson, Hangchau, China.)

There has been a monopoly of the camphor business in this province, held by a Chinese syndicate, for the past two years, but the syndicate has lost money and has ceased operations. The history of the monopoly is significant. The movement among the Chinese to take charge of the camphor trade came in the latter part of 1901. At that time companies were formed in Fukien and Chekiang provinces, a report as to the former of which was given by Consul Fesler, of Amoy, in 1902. The monopolies were authorized by the Throne under the plea that they were organized for the purpose of securing revenue for the Chinese Government. An American firm engaged in the camphor-buying business in Fukien in 1901, and Japanese firms followed. Chinese attention was attracted, and later the Chinese company secured a monopoly. It tried the business for a short time and failed to make it pay. Later a Japanese camphor expert was secured and was given practically a monopoly of the business in that province. His contract covered six years, during which he was to pay to the Government a tax of about \$3 gold per picul (133½ pounds), and at the end of the six years he was to turn the plant over to the syndicate without further

cost to it. None but Chinese were allowed to buy camphor trees in the interior, and the trees or their product were brought to treaty ports free of likin duties under transit passes.

In line with this monopoly in Fukien a monopoly was arranged for in Chekiang province. A syndicate was organized with a capital of 50,000 haikwan taels (\$30,000). Half of this capital was subscribed by business men and half by officials. It was provided in the arrangement that the monopolists should continue to pay the likin of 5,400 cash per picul (\$3 gold for each 133½ pounds), and in addition thereto should pay \$4 Mexican (\$1.80 gold) per picul as royalty to the government of the province. Growers were forbidden to sell to others than the monopolists, and camphor was not allowed to be brought to port unless covered by the company's yün-chao. The buying price of camphor was fixed at from \$25 to \$30 Mexican per picul (\$11.70 to \$13.50 per 133½ pounds) according to quality.

There are several reasons why the monopoly has failed, but the chief one seems to be that the Chinese people in the interior were aware that two could play at the game of buying and selling, and the minute they understood that this monopoly had been formed for the purpose of buying their camphor trees the price of camphor trees went up and went up to stay. In many regions the price at which it was figured the trees could be had was trebled. Camphor trees do not grow in groves; they grow in groups of two or three, ten trees together being very unusual. They are grown mostly in and around family burying grounds, and, as a rule, are to be found in greater numbers on low hills, both because there are more burying grounds on the hills and because the people have cleared the lowlands more perfectly. Naturally the natives have been slow to sell trees on their burial lots, and have raised prices considerably for that reason. The inevitable "fung shui" or superstitious fear of evil spirits being disturbed, inviting "bad luck" and misfortune, also served to hold back the work of buyers. The agents of the monopoly therefore were compelled to hunt for trees of suitable size and quality, and when they had found them prices were too high or the trees would not be sold for a variety of reasons. The supply of camphor wood for the manufacturers has been insufficient and uncertain, the prices have been high, the cost of buying trees has been increased by loss of time and long transportation, and withal the loss of time of workmen waiting for materials, the expensive losses due to poor methods of manufacture, the "squeezes" peculiar to China, and unfavorable markets have combined to make the venture a losing one. The company has recently wound up its first year's business, and estimated its loss at 20,000 taels, or \$14,000. There are hints abroad that the loss is not as great as represented and that there might have been a profit for the company had it not suffered from the peculiar way in which money for the

Government is handled. In addition to the special taxes on the camphor made and sold by the company, the Government was to receive 2 per cent of the company's profits. It is impossible to learn exactly what the Government made from the venture, but there is reason to believe that it secured practically nothing.

One of the reasons why there was a loss in the work of the syndicate was in the fact that only native methods of manufacture were followed. It is explained by a member of the concern that no machine was used because "formerly a man was in the business who employed machinery and he lost a great amount of money." Just what it cost to produce a picul of camphor is uncertain. The buyers paid different prices for large and small trees, owing to the differing percentages of camphor found in them. In general it is estimated that 100 catties of camphor wood cost \$5 or \$6 Mexican (\$2.25 to \$2.70 gold for 133½ pounds). The distilled product was sold for a little over 90 taels a picul (\$63 gold per 133½ pounds). A tree bearing 2 per cent of camphor, therefore, would produce about \$1.28 worth of camphor in \$2.50 worth of wood. The price of camphor wood quoted seems excessive to me, but it is the price estimated by an officer of the syndicate.

The camphor tree grows generally throughout this province, being found in the districts of Kinhua, Yienchau, Wenchau, and Taichau. The best trees and in the greatest number grow in Taichau and Wenchau, where the climate is most favorable to them, and the syndicate working in this province confined its operations almost altogether to Taichau. There seem to be two varieties of the tree common here, although two varieties are not noted in the books as being found. One is known among the Chinese as the "fragrant" and the other as the "bitter" or "stinking" camphor tree. The former is the camphor-producing tree. Fully one-half of the camphor trees of this province are of the noncamphor-producing variety. Farther south and in the southern districts of this province the "fragrant" variety is more common.

The monopoly given the camphor syndicate in this province which seems to have failed was for ten years, after which it was provided that other companies could be organized and engage in the business. What the course of the provincial government will be in case anyone else attempts to work the camphor field here is uncertain, but it is probable that the authorities will be willing to grant concessions under reasonable conditions. It is believed that operations in the southern portion of the province would pay, although probably camphor can not be produced as cheaply in China, at least this portion of China, as it can in Formosa. Besides, the Japanese authorities will probably make every effort to maintain their present hold upon the trade.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *December 8, 1904.*

TRADE OUTLOOK IN WEST AFRICA.

(From United States Chargé d' Affaires Ellis, Monrovia, Liberia.)

The native Africans are among the most interesting people in the world, and the varied and natural wealth of their country is unsurpassed. The indications are that the natives will for some time yet almost wholly possess West Africa. They thrive along the West Coast in millions. Although armed like warriors, they are lovers of peace; they have their peculiar civilization, and they are rich, but this wealth is in wives, bullocks, and slaves captured in intertribal wars.

The native African secures the products of his country without much labor or difficulty. When these products are manufactured they command large profits abroad. The increasing consumption in Europe of West African commodities is dependent upon the native African. It is he who secures the piassava, ivory, caoutchouc, palm oil, palm kernels, kola nuts, kafa seeds, hides, cassava, calabar beans, cocoa, and ginger, and it is he who performs the labor in the steamship service of the coast and in the trade and traffic and mines of the interior. The African likes to trade, and sends his products for miles from the interior to the coast. It is easy to buy from him, but no novice can sell to him. He has been trading for centuries. His wants and desires have been dictated by the nature of his environment and the customs and laws of his social life. He knows at sight what is best for him, and the manufacturers of Europe have made millions by studying his wants. When American manufacturers turn their attention to West Africa they will behold a most inviting commercial field. The iron pots, brass kettles, tobacco, steel bars, red caps, silks, cotton cloth, gold and silver trinkets, cap and flint guns, and many other articles which are called for by the African must be made for him specially. The Germans thus far have excelled the English in making cloth for the African, but it is my belief that the American manufacturers can and will excel the Germans if they ever investigate the profits of this West African trade. Patterns of different articles, according to the wants of the natives, can be forwarded through the Department whenever they may be required. The United States is surely especially fitted to enter upon the conquest of this great market; the opportunity is now, and Liberia is the open door.

GEORGE W. ELLIS, *Chargé d' Affaires.*

MONROVIA, LIBERIA, December 16, 1904.

LIMA-CALLAO AUTOMOBILE FREIGHT LINE.

(From United States Consul Gottschalk, Callao, Peru.)

An automobile line for the purpose of freight carrying between Lima and Callao has been inaugurated. It is incorporated as the Sociedad de Automobiles para Carga Limitada, its manager is Señor Francisco Dammert, and its directors are substantial business men of Lima. It has a capital of \$214,280, distributed in shares of \$24.35 each.

There are five automobiles in use at present, each having a freight-carrying capacity of 5 metric tons. They carry cargo direct from the Callao docks to the consignee's warehouse or commercial establishment in the city of Lima, a convenience not afforded by the railroad lines.

Although Callao has for centuries been so identified with Lima as to be virtually but a commercial suburb of the larger city, and although this condition has of late years been accentuated by the successive establishment of two steam railroads and a trolley line between the two places, facilities for transporting cargo have hardly been adequate to the needs of Lima merchants. When it is taken into consideration that the business district of Callao consists almost exclusively of shipping agencies, branch banks, seaboard consulates, and that, except in ship chandlery, there is hardly a single important commercial establishment of any kind here that is not a branch of some Lima firm, it will be seen that there was urgent need for some cheap and rapid means, such as the new automobile line affords, of transporting import cargoes to their real destination, which is usually the city of Lima.

ALFRED L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *December 17, 1904.*

MONEY AND PRICES IN GUATEMALA.

(From United States Consul-General Winslow, Guatemala City, Guatemala.)

The money question in the Republic of Guatemala is an important matter, not only for the Republic but for those shipping to its markets. Originally Guatemala was on a silver basis, but since 1897 and 1898 the banks were allowed to issue currency without sufficient redemption funds, and for the last two years this currency has been fluctuating from 12 pesos for a dollar (gold), the present value, to 24 pesos for a dollar in July, 1903. This of course has seriously affected business, both internal and foreign.

Prices were advanced to correspond with the value of a peso at 24 to 1, and now it is very difficult to get them reduced. To illustrate,

butter is now 6 to 8 pesos (48 to 64 cents gold) per pound; potatoes, 35 to 45 pesos (\$2.80 to \$3.60 gold) per 100 pounds; flour, 54 pesos (\$4.32 gold) per 100 pounds; corn, 24 pesos (\$2) per 100 pounds. Wages have also advanced, but not in comparison with the advance in other things, not even with the advance in rents. In face of the advance of wages, there is a great scarcity of workmen. The coffee crop this season has suffered much for want of labor.

ALFRED A. WINSLOW, *Consul-General.*

GUATEMALA CITY, GUATEMALA, *December 27, 1904.*

RECLAMATION OF MESOPOTAMIA.

(*From United States Consul Ravndal, Beirut, Syria.*)

RAILWAYS AND TRADE CHANGES.

Some thirty or forty years ago Bagdad carried on a lively trade with Beirut. Now only twelve to fifteen caravans pass between Bagdad and Damascus in a year. Busra's development as a trade center, in consequence of the opening of the Suez Canal, was a severe blow to Syrian commerce, especially to that of Aleppo. Beirut also suffered, but its losses were offset by gains from Aleppo, which, although still doing a considerable local and transit trade and occupied with long-established industries (population 125,000), has yielded its scepter of commercial leadership to Beirut, as has also Damascus.

Since 1902 Beirut has been connected by rail with the important towns of Homs and Hamath, industrial and agricultural centers in the Orontes River Valley, and in consequence the seaport of Tripoli has been compelled to surrender a large share of its traffic to Beirut. The latter city is extending its commercial hegemony both north and south.

Merchants in Beirut seem to think that the commerce of this city will be doubled with the extension of the Hamath railway to Aleppo. What effect its eventual farther extension to the Euphrates, and its junction at Birejik with the German Bagdad line, will have on Beirut is a matter of conjecture. Some people believe that in time the Mesopotamian business will be cleared at Alexandretta, and that the latter port for this purpose will be connected at Birejik with the German main line to the Persian Gulf. Such plans, if they exist, are, however, not officially on the tapis.

Beirut is known in the interior as carrying at all times extensive and diversified stocks of merchandise, and has, besides, facilities, organized during centuries of intercourse, for extending credit to retailers, even from distant villages, which merchants and bankers at smaller seaports, such as Alexandretta and Haifa, do not possess. She has the only protected harbor on the Syrian coast. Here are headquarters, as far as the Syrian and Caramanian coasts are concerned, for

customs and quarantine matters. Her colleges and printing offices make Beirut easily the educational center of the Levant. It will, therefore, take some time before eventual rivals can make much headway.

The Bagdad Railway has reached Eregli, and its surveyors are to-day at work opening passes for its extension across the Taurus Mountain chains, which present the greatest engineering difficulties of the undertaking. The country through which this great line is to run is one of the most interesting in the world, both on account of its historical antecedents and because of the romantic beauty of the districts between Konieh and Mosul. The railway will traverse the heart of Asia Minor and it will open up the most ancient of the Bible lands, seeing that it will set the locomotive rolling all through the home countries of Abraham and his patriarchal predecessors. When the shriek of the steam engine echoes past Ur of the Chaldees and along the banks of the Euphrates, and the train traverses the wastes where Nebuchadnezzar's sway flourished, it may indeed be said that modern civilization has annexed the cradle of the world's earliest life.

European manufacturers need cotton, wool, hides, minerals, etc. Asia Minor will be called on before long to supply in part these demands. Europe also requires food stuffs. Anatolia, northern Syria, Mesopotamia, and the Irak are expected almost to equal Russia as a granary. Diverted from her dealings with the Indies by the discovery of America, Europe is once more turning her eyes eastward. As the deviation of trade toward the New World laid Asia Minor and Mesopotamia waste, so its new march from central Europe toward the east will cause the countries of western Asia to thrive and flourish.

French, British, and Belgian capitalists are associated with the Germans in carrying out the Bagdad Railway scheme, and enthusiasts insist that the road will be in working order from Scutari to the Persian Gulf, a distance of 1,862 miles, in five years. By far the longest section of the line from Konieh will be the Mesopotamian, 700 miles, which will follow the banks of the mighty Tigris. The railway will leave the Euphrates after crossing it at Birejik, and will cross Mesopotamia to the Tigris. The vast Mesopotamian plain is a singularly varied region. Big areas of spongy bog and swamp skirt the sides of the famous rivers, many of these being salt marshes. Bituminous tracts abound. Sometimes the caravans pass through many miles of tamarisk shrub, but here and there beautiful grassy plains are traversed, and there is abundant cultivation on the southern half of the plain, where the Tigris and Euphrates approach more nearly to each other. Bagdad, with a population of about 200,000, stands in the midst of a grand oasis of palm groves and gardens nearly midway between Mosul (best known to some as the home of muslins and to others because of the neighboring ruins of Nineveh) and the Persian Gulf.

The re-creation of Chaldea, once the richest and most coveted part of the East, is probably near at hand. Mesopotamia seems about to be reclaimed. The Bagdad Railway is advancing from the west, and European civilization is scattering before it the Arabian locusts which have so long held possession of these plains.

In 1899 the Central Asiatic Crown Railway was completed. It runs from the Caspian Sea through Transcaspia and Bokhara to Tashkent, in Russian Turkestan, 1,045 miles in length. The Russians already have a Northern Pacific Railroad through Siberia. In the Central Asiatic Crown Railway they may possibly some day have a Central Pacific line. No doubt there will in time also be a Southern Pacific, either a continuation of the Bagdad line or a new line, under British control exclusively, from Cairo across Arabia, on through Persia, Baluchistan, and India. Such a line is much discussed by Britons in India and Egypt as a now necessary complement to the Suez Canal. Already a railway crossing the Indus has been built, by the British India government, from Quetta across Baluchistan to near the Persian province of Seistan, and trade between India and Persia, which formerly passed through Afghanistan, but was more or less ruined by the Amir's fiscal policy, now follows this route, or is carried by sea through Persian Gulf ports.

It may be interesting to note the concern which is felt in Russia lest the British prolong their Baluchistan Railroad in the direction of Kirman, in the heart of southern Persia, and effect a junction with the Bagdad Railway, thus realizing their dream of uninterrupted railway communication between Europe and India. In this connection I would quote from a Reuter telegram from St. Petersburg, published in the London Standard of September 5, 1903:

The economic importance of the continuation of the Quetta-Nushki Railroad will, in the opinion of the *Novoe Vremya*, be very great, but its political significance will be much more considerable. A railway running from India through Baluchistan, southern Persia, and Mesopotamia to the Bosphorus, in British and German hands, would deprive Russia of all outlet in the direction of the Indian Ocean, and render nugatory her advance movement in central Asia toward the south. Such a prospect, remote though it still appears to be, can not fail to alarm Russia. Complaining of the harmful delays which up to the present have characterized Russian enterprise in Persia, where she has allowed her rivals to forestall her, the *Novoe Vremya* declares that the construction of the Quetta-Seistan Railway compels the Russians to build their own railways in Persia, as otherwise they will not in the future be in a position to do what they can now effect. "If," says the journal, "we proceed immediately toward the Indian Ocean by means of these lines, concurrently with the construction of the Bagdad and Baluchistan railways, we shall appreciably paralyze our rivals, and shall not give them time to join hands, already stretched out to one another. Persia is to-day the only position which we could occupy peacefully, and whose possession will bring us on the flank of

the Germans in Mesopotamia and of the British in Baluchistan and India. Prompt action must be taken, however, since every delay will render more difficult the attainment of an object which historical reasons prevent us in any case from treating with disdain."

In the north Russian activity is supreme and unquestioned. A branch line from Merv, on the Trans-Caspian Railroad to the Afghan frontier (180 miles), was opened in 1900, bringing the Russian system of railways within 70 miles of Herat and within 450 miles of the Indian railway system, which now boasts 30,118 miles. The connection of Tashkent with the main Russian system by a line to Orenburg (on the Ural River) was completed in 1903.

TRADE AND TOURIST ROUTES.

Mesopotamia, which has a total area of perhaps 180,000 square miles, is described as a country of immense fertility, capable of producing grain for thirty times its present population of about 1,500,000, and remains unexhausted after having supported the teeming populations of the Akkadian, Assyrian, Babylonian, and Persian empires from the dawn of history to comparatively recent times. Cotton, rice, maize, and dates are cultivated with success, and the application of modern methods in some of the Sultan's domains around Bagdad and Busra has shown that improved agriculture will enormously increase the traditional rate of production.

Agricultural and irrigation machinery will soon be needed in Mesopotamia, and the demand is likely to spread throughout western Asia. The age of machinery dawned upon Syria with the advent of the twentieth century. It is now Mesopotamia's turn, and I trust American manufacturers will take advantage of the opportunity as promptly and effectively as they did in Syria three or four years ago.

Northern Mesopotamia is reached most safely from Beirut, while the large territory between Bagdad and the Persian Gulf is most easily served from Busra. Black Sea or Caspian Sea routes can not be recommended to Americans seeking access to Mesopotamian and Persian markets. Some people contend that goods bound for Bagdad will before long be sent most conveniently from Damascus, thereby avoiding the 8.20 francs (\$1.58) per ton charged by the Suez Canal Company and the 4,000 miles trip along the coasts of Arabia, besides the four to five days' excursion by river boats. However this may be, the fact remains that Bagdad at present is chiefly supplied from the Persian Gulf, and this condition is likely to prevail until some means of transportation more satisfactory than the camel is inaugurated between Damascus and Bagdad, and until the necessity ceases to exist of paying tribute to the Bedouin tribes in Queen Zenobia's now desolate realms.

AUTOMOBILE FREIGHT AND TOURIST SERVICE.

The question of carrying tourists to Palmyra in automobiles, starting at Homs, has been seriously discussed in Beirut and Damascus, and one is led to believe in the possibility of a regular freight service between Damascus and Bagdad by automobile transport wagons. Experiments in the Sudan and Kongo Free State have proved their feasibility. In the plains of Syria, Mesopotamia, and Arabia oil-motor freight cars would seem to have a future. Petroleum is comparatively cheap, owing to the proximity of the Caucasian oil fields.

FREIGHT TRANSPORTATION.

Naturally, the questions of transport of freight and freight rates are of vital importance. In illustration, attention may be called to a statement by Mr. Griscom, while minister to Persia, of the cost (not including, I believe, import duty) of an American "surrey" brought to Teheran, and which was sold there for \$400: New York to Bosra, \$56.78; river freight to Bagdad, \$10.40; Bagdad to Hamadan, \$30.80; Hamadan to Teheran, \$12.02; total freight (United States to Teheran), \$110; cost of carriage in United States, \$127; total cost of carriage in Teheran, \$227. American carriages are finding their way to Persia, but with some difficulty, owing to the perplexities of conveyance.

Heavy, bulky articles, such as machinery, can not be transported on camel or mule back. A camel can carry two cases of 350 pounds each, and a mule carries two cases of 275 pounds each. In view of the daily loading and unloading careful packing is highly necessary. For the transportation of, for instance, steam engines, one must rely on railways or rivers and fairly good carriage roads. Mesopotamia does not boast, as yet, any roads, except in the extreme north, and the Bagdad-Teheran road. However, they are most probably coming, and the ancient caravan routes which cross the country in various directions form a reasonably acceptable foundation for a regular system of highways.

AMERICAN INTERESTS IN MESOPOTAMIA.

Until now Mesopotamia has not entered very prominently into American affairs. Our interests have largely been confined to scientific explorations and excavations of ancient ruins; to evangelistic and medical missionary work for Arabia, centered at Busra, and to some trade through the ports of the Persian Gulf. Bagdad's trade with Europe and America in 1901 was valued at \$2,435,000 exports and \$6,800,000 imports, of which imports from India amounted to \$385,000. Statistics for Busra for the same year put the exports at the latter point at \$5,760,000 and the imports at \$6,390,000. It is principally owing to the enterprise of British commerce and the Euphrates and Tigris Steam Navigation Company (British) that the country has been developed into new life and prosperity.

During the fiscal year ended June 30, 1903, Bagdad exported to the United States wool, carpets, galls, gum, mohair, and licorice root, etc., to the amount of \$644,188 (increase over preceding year, \$235,626), while Busra sent us during the same period dates, licorice root, etc., to the amount of \$341,234 (increase over preceding year, \$68,396). American exports to Mesopotamia are unimportant. Its needs resemble those of Syria, and my comments on Syrian imports are applicable to the Mesopotamian situation. Germany is a heavy importer of cotton and corn from America; whether Mesopotamian competition in these staples will soon or ever be felt in the United States is an interesting question.

Besides the local production, there is the local consumption of imported goods to be considered, and by the new railway Europe will be able to supply vast regions with every species of goods at prices very much lower than existing charges. Intercourse with foreigners, education, railways, and foreign capital will develop the natural resources of the country and increase the purchasing power of the individual. They will multiply and diversify the requirements of the people, and gradually destroy their primitive penny-wise and pound-foolish policy in making purchases for their homes, farms, and factories. I am profoundly impressed with the fresh openings for trade in southwestern Asia and northeastern Africa, chiefly through the construction of railways, and hope that American exporters will take steps to be on hand early and secure vantage ground in time.

It is admitted in commercial and financial circles in the United States that efforts abroad must expand so as to embrace even the most distant fields. Constant exploitation of European markets in disregard of new and undeveloped territory is a short-sighted policy. Asia and Africa furnish an inviting field for both our manufacturers and our capitalists. A most encouraging sign is the reported prospective establishment of American enterprises in Abyssinia as a fresh proof that capitalists realize the importance, in the interest of American foreign trade, of investments of money in the dark places of the earth.

In my commercial report, of March 2, 1900, I wrote as follows:

I believe Syria, Palestine, and adjoining semiarid territories present a very promising market for our irrigation machinery. Western Asia is about to be developed and exploited. A concession for a railway through Asia Minor and Mesopotamia to the Persian Gulf was recently secured by a German syndicate. Similar enterprises farther north and east are expected to be undertaken by Russians. Where the field is so extensive and the people so unfamiliar with modern devices, it behooves our manufacturers to make special efforts.

ANCIENT IRRIGATION WORKS.

An imperial irade authorizes Sir William Willcocks, late director-general of reservoirs in Egypt, to examine into the ancient irrigation system on the Tigris and Euphrates, and he has left for Bombay en

route for Busra and Bagdad, where he hopes to make a preliminary examination of the ground this winter, according to the Egyptian Gazette.

Sir William, in a lecture delivered at a meeting of the Khedivial Geographical Society at Cairo, March 25, 1903, made the following observations:

The construction of these great canals will create along the line of railway a country as rich as Egypt, whose rents will pay for both railway and canals and leave a surplus which only those can realize who have been in intimate touch with Egyptian agriculture. * * * With cements and mortars, of which the ancients knew nothing, with the power of steam and electricity at our disposal, with blasting powders and dynamite, and, above all, with labor-saving machinery and dredges, we shall be able in our day to accomplish in a score of years as much as a whole dynasty of ancient kings could have accomplished with hundreds of thousands of prisoners and corvée.

The delta of the Tigris and the Euphrates, now partially a swamp, partially a desert, contains over 5,000,000 acres of land. Perhaps no region, of all the regions of the earth, is more favored by nature for the production of cereals. It is claimed that wheat, in its wild, uncultivated state, has its home in these semiarid regions, and that from here it has been transported to every quarter of the globe. Sir William Willcocks says:

Cotton, sugar cane, Indian corn, and all the summer products of Egypt will flourish here as on the Nile, while the winter products of cereals, leguminous plants, Egyptian clover, opium, and tobacco will find themselves at home as they do in Egypt. Of the historic gardens of Babylon and Bagdad it is not necessary for me to speak. A land whose climate allows her to produce such crops in tropical profusion, and whose snow-fed rivers permit of perennial irrigation over millions of acres, can not lie barren and desolate when the Bagdad Railway is traversing her fields and European capital is seeking remunerative outlet.

G. BIE RAVNDAL, *Consul.*

BEIRUT, SYRIA, *December 26, 1904.*

FUSEL OIL IN GERMANY.

(From United States Consul-General Mason, Berlin, Germany.)

Fusel oil is a by-product of the manufacture of alcohol from potatoes, grain, or the refuse molasses produced in making beet sugar. The German product comes almost exclusively from potato alcohol. It is extracted during the process of purifying the crude spirits, and being a hot, acrid, and more or less poisonous compound, was, until a few years ago, almost a waste product, selling as low as \$3.50 per 100 kilograms (220 pounds).

It was then found to be useful in the manufacture of varnishes, perfumes, also certain explosives, and, it is said, confectionery. There grew up a demand for German fusel oil in the United States and the

export to our country increased rapidly to 223 metric tons in 1901, 260 tons in 1902, and 342 tons in 1903. Since then there has been a noticeable falling off, the shipments to the United States during the first eight months of 1904 being only 57.6 tons, against 286 tons during the same period in 1903. There are no available statistics showing the total production of fusel oil in Germany, and the record of exports, as stated, being taken from the official returns, necessarily relate not to any consular district, but to the whole of Germany.

The price of fusel oil in this country fluctuates in close accord with the demand from the United States, which takes about nine-tenths of the entire export, the remainder going to Great Britain. For a long time the market value varied from 50 to 60 marks (\$11.90 to \$14.29) per double centner (220 pounds), but under the steady and growing demand from the United States it rose to a record rate of 170 marks (\$40.46) per 100 kilos (220 pounds) in January, 1904. Then, in consequence of the diminished export demand, the market value began to decline until it reached 100 marks (\$23.80), which was low-water mark. for during the past six weeks the American trade has begun to revive and the market has risen to 110 and 112 marks (\$26.18 and \$26.65) per 100 kilograms (220 pounds) for the average quality, though the lowest grade is still to be had for 100 marks (\$23.80).

It is not likely that the price will soon be any lower than at present. for the protracted drought of the past summer has made a short and inferior potato crop, so that the output of potato alcohol this season will be smaller than that of any recent year. Commercially fusel oil is a specialty, and the trade in Germany is practically concentrated in comparatively few hands. The firms R. Weichsel & Co. and Alexi Hirsch, both located at Magdeburg, handle a large portion of the German product. Other important firms in the same line are Messrs. Hess & Mecklenburg, Hamburg, and Franz Hellwig & Co., 45 Lehrter Strasse, Berlin. Among the principal producers of fusel oil in this country are the Norddeutsche Spritwerke, Hamburg, and three firms in Berlin: Bank für Sprit und Produktenhandel, 67 Jäger Strasse; C. A. F. Kahlbaum, No. 19 Munz Strasse; and R. Eisenmann, No. 6 Muhlen Strasse.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *November 30, 1904.*

RAILROADS IN PERU.

(From United States Consul Gottschalk, Callao, Peru.)

PROPOSED DEVELOPMENT OF PERU.

The present administration of Peru has infused new blood and renewed vigor into Peruvian affairs. The country, which for some years past has been free from internecine strife and those internal political upheavals so prejudicial to commerce and industry, has come

to a general realization that the work before it lies chiefly in developing the region known as the montana, the vast and almost virgin territory lying east of the Andes, as well as in the establishment of connections by land between its cities. Roads and transit facilities, therefore, are what chiefly occupy the public attention, and the department of fomento (public works), under the guidance of Minister Balta, who is a civil engineer of merit, has laid out a programme which bids fair to be realized within a few years, and to become in a sense epoch making for Peru.

It would be well for capital in the United States to study carefully this ground, which the opening of the Panama Canal will bring comparatively close to the United States, and to remember, in considering a railroad proposition for this country, that Peru offers guarantees of stability, both as regards a peaceful government and the obtaining of bona fide and valuable concessions in return for every mile of railroad built.

EXISTING RAILROADS.

The following table, compiled at this consulate, shows the existing lines of road in Peru, when built, gauge, mileage, etc.:

Railroads of Peru; when built, gauge, length, and control.

Name of road (terminals).	When built.	Gauge.	Length of road.	Control.
		<i>Meters.^a</i>	<i>Kilos.^b</i>	
Paleta to Cayalti.....	1884	1.44	97.00	Peruvian corporation. ^c
Piura to Catacaos.....	1888	.75	10.65	Private.
Pimental to Lambayeque.....	1875	.91	24.14	Do.
Eten to Ferrenafe.....	1871	1.44	48.10	Do.
Chiclayo to Patapo.....	1871	1.44	30.00	Do.
Pacasmayo to Guadeloupe y Yonan.....	1876	1.44	93.00	Peruvian corporation.
Salaverry to Trujillo y Ascope.....	1875	.91	76.00	Do.
Chicama to Pampas.....	1898	.91	30.00	Do.
Trujillo to Laredo.....	1896	.91	12.00	Do.
Laredo to Galindo.....	1896	.91	13.00	Private.
Huanchaco to Roma.....	1902	.91	40.00	Do.
Chimbote to Suehlman.....	1872	1.00	52.00	Peruvian corporation.
Supe to Pativilca.....	1902	.60	12.20	Private.
Supe to San Nicolas.....	1899	1.00	6.00	Do.
Chancay to Palpa.....	1877	1.44	20.00	Do.
Playa Chica to Salinas de Huacho.....	1876	-----	10.00	Do.
Callao to Lima.....	1849	1.44	13.70	Do.
Lima to Chorrillos.....	1858	1.44	13.90	Do.
Callao to La Punta.....	-----	1.44	-----	Do.
Callao to Ballavista.....	-----	1.44	3.40	Do.
Lima to Magdalena del Mar.....	1902	1.44	5.00	Do.
Lima to Ancon.....	1869	1.44	37.00	Peruvian corporation.
Callao to La Oroya.....	1870	1.44	220.00	Do.
Tiello to Morococha.....	1900	1.44	13.40	Private.
Casapalca to Carmen.....	1900	.91	10.00	Do.
Cerro Azul to Canete.....	-----	.91	10.00	Do.
Pisco to Ica.....	1869	1.44	74.00	(d)
Mollendo to Arequipa.....	1869	1.44	172.20	Peruvian corporation.
Arequipa to Puno.....	1869	1.44	351.76	Do.
Jullaca to Santa Rosa.....	1869	1.44	132.00	Do.
Santa Rosa to Sicuan.....	1869	1.44	58.00	Do.
Ilo to Moquegua.....	1871	1.44	100.00	(e)
Arica to Tacna.....	1856	1.44	-----	Private.
Oroya to Cerro de Pasco.....	1904	1.44	110.00	Do.
Lima to Chorrillos (electric).....	1904	1.44	14.00	Do.
Callao to Lima (electric).....	1904	1.44	14.00	Do.

^a Meter=29.37 inches.

^b Kilometer=0.6214 mile.

^c The railroads controlled by the Peruvian corporation belong to the Peruvian Government, but are administered by this syndicate by virtue of a contract valid for forty-two years.

^d Leased by the Peruvian Government to Christian Sciretmuller. The Peruvian corporation will take charge at the expiration of the contract.

^e This railroad was partially destroyed in the war in 1879, and has not been repaired since then.

PROJECTED RAILROADS.

1. *Oroya to Huancayo*.—A commission of Government engineers is at present finishing the survey of a railroad between Oroya and Huancayo, which will have an approximate length of 21 kilometers (13 miles). The work of construction will be begun by the Government in January, 1905. The route is through a well-populated valley, rich in agricultural products, coal, and copper. The starting point (Oroya) is the terminus of the present Ferrocarril Trasandino (the road built years ago by Henry Meiggs, American engineer), so that the new project will afford direct rail connection between Janja and Huancayo and Lima and its port, Callao. The importance of this road to Peru can not be overestimated. Owing to the variety of altitude, this country is capable of producing, and does produce, the crops of the Temperate as well as those of the Torrid Zone, so that an interchange of agricultural products between the mountainous interior (sierra) and the coast is of great importance as regards the distribution of food supplies. Doubtless the new road will also make accessible to the coast a large mineral region, susceptible of much development.

2. *Sicuani to Cuzco*.—Cuzco, the ancient capital of the Incas, is at the center of an interior region which is both mining and agricultural, but it is accessible only by stagecoach road from Sicuani. Sicuani is connected at the Juliaca junction with the existing railroad between Puno, on Lake Titicaca, and the port of Mollendo. It is over this latter railroad that all the exports of Bolivia must travel for shipment to the outer world. The Sicuani-Cuzco road, actual construction of which is to be begun in January or February by the Government (it has already been thoroughly surveyed and studied), is to have an approximate length of 140 kilometers (87 miles). It runs through good agricultural regions, and will serve to transport passengers and cargo for the Cuzco district, as well as agricultural and other exports from Cuzco to the coast.

3. *Oroya to Ucayali*.—A railroad, with an approximate length of 400 kilometers (248.5 miles), is now under Government survey, and construction is to be begun in 1906. This road is confidently looked to as opening a new field for Peruvian enterprise and for foreign colonization as well. Oroya, as pointed out already, is in direct communication by rail with Lima and the coast, so that the Oroya-Ucayali road will carve out the remainder of the pathway from Lima and Callao, the chief exporting point of the Republic, to the headwaters of the Amazon River, through a country, much of which is virgin forest, and which should be rich in precious woods and rubber. The exact terminus is not yet fixed, but will be at some navigable point on the river Ucayali, which empties into the Amazon.

4. *Piura to Pongo de Manseriche*.—The concession for the building of this railroad has just been granted to the Pacific Company of New

York City, which, on November 23, 1904, made its deposit of £10,000 (\$48,700) as a guarantee of good faith. The road is to be about 500 kilometers (310 miles) long, and will run from Piura, the center of the Peruvian cotton-growing industry, over the shortest practicable distance to some navigable point on the river Marañon, below the Pongo de Manseriche. The Marañon disembogues directly into the Amazon, so that this road, like the Oroya-Ucayali line, will serve to connect the great transcontinental waterway with the Pacific coast. In return for its work, the Pacific company enjoys by concession the right to construct and operate branch roads as far north as the Ecuadorean frontier and as far south as the parallel of 10° south latitude, 1 kilometer (3,280 feet) of land grant on either side of the road and its branches, 3,000 hectares (7,413 acres) of virgin land on the eastern slope of the Andes for every kilometer (0.62137 mile) of line constructed, certain water rights, free entry of materials, rolling stock, etc., trading rights on the Amazon and its tributaries, and other valuable considerations. The company obligates itself to begin road construction in 1907 and to complete the work within ten years' time.

The building of this road, like that of the Oroya-Ucayali line, is of immense importance, not only commercially, but politically and strategically, to Peru, whose immense and valuable trans-Andean possessions can be developed and held free from encroachments only by means of efficient transit facilities between the more populous coast section (cis-Andean Peru) and the montana, or practically virgin country beyond the Cordillera (trans-Andean Peru). This montana country, which is drained by numberless rivers—the headwaters of the Amazon—is full of possibilities, and would be more extensively colonized were it not that its remoteness has, until now, forbidden its approach by any but the more venturesome. Still there is a flourishing town at Iquitos, which does an export and import business (via the Amazon and Brazilian ports) utterly out of proportion to its size or remote location. The banks of the rivers are also dotted here and there with smaller trading posts, where many persons have accumulated wealth bartering manufactured goods for rubber and other native products of the semicivilized Indian tribes. The rubber, incidentally, is of the highest-priced sort known to commerce, and is generally known in the world's markets from its (Brazilian) exporting point as "Para rubber."

5. *Lima to Pisco*.—This road, which is to extend some 225 kilometers (140 miles), is intended to connect Lima with the port of Pisco, the center of the grape and brandy industry of Peru, and will traverse a number of agricultural and stock-raising valleys. It is thought that when the road is completed the present high cost of living in Lima will be decreased by from 33 to 40 per cent, most of Lima's produce, charcoal, beef, etc., coming from this region. It may also tend to

lower the abnormally high freight and passenger rates charged by the two merged steamship companies which traffic on the coast—a considerable hindrance to local commerce at present. The Government has offered a guaranty of 7 per cent annual interest on the capital invested in this road up to £500,000 (\$2,435,000), and it is said that "The Peruvian Corporation," a British syndicate already controlling certain railroads in Peru, will undertake its construction.

6. *Chimbote to Recuay*.—The railroad from Chimbote (one of the best natural harbors on the west coast of South America) to Recuay is to be some 220 kilometers (137 miles) in length, and will reach into a wealthy mineral region, as well as traverse coal fields of considerable magnitude. The harbor of Chimbote is important. It is said, on excellent authority, that an English syndicate has been formed to construct this road, and I am informed that these gentlemen have already approached the Peruvian Government with a very favorable proposition.

7. *Bayovar to Sechura*.—Twenty-five kilometers (15.5 miles) of railroad are now under construction between the port of Bayovar in northern Peru and the sulphur beds at Sechura. This is the work of private enterprise interested in the sulphur deposits.

AMERICAN OPPORTUNITIES.

A word to railroad capitalists of the United States looking for advantageous opportunities may not be amiss, in recapitulation of what has been said:

The present Government of Peru has among its chief aims that of covering the country with a network of railways and of doing all that is possible to encourage foreign immigration and colonization. It is prepared to give to concessioners valuable considerations in the way of land grants, guaranteeing a certain sure percentage on the amounts invested, etc. The opening of the Panama Canal will place Peru in comparatively close touch with the United States, and the facilities offered to foreign concessioners will naturally be fewer then than they are to-day. These points are worth noting.

ALFRED L. M. GOTTSCHALK, *Consul*.

CALLAO, PERU, *December 13, 1904.*

AMERICAN INTERESTS IN DAMASCUS.

(From United States Consul Ravndal, Beirut, Syria.)

Notwithstanding the cholera which hung on from the preceding year for several months, commerce in general was satisfactory at Damascus during the fiscal year 1904. Plans for an electric street railway, for electric lighting, and for modern waterworks are seriously under consideration. The simple fact that such improvements

receive official encouragement shows that Damascus, the oldest surviving city in history, is endeavoring to keep step with the modern world. American agricultural and milling machinery is entering the plains adjoining Damascus. Michel Meshaka, successor of Meshaka & Nachman, makes a specialty of introducing American goods into that district. Wire nails from the United States are driving French and Belgian makes out of Damascus. Exports to the United States, consisting of wool, licorice root, cotton and silk fabrics, rugs, copper and brass goods, articles of furniture inlaid with mother of pearl, skins and sausage casings, etc., maintained their former level. Crops were good, and the extension of the Damascus-Mecca Railroad to Ma'an helped to bring about prosperous times.

Nasif Bey Meshaka, our consular agent at Damascus, has sent me a prospectus of the new city waterworks, saying that the collection of the 3 per cent tax for this enterprise is continuing, but that no construction as yet has been begun. In regard to the proposed electric plant Consular Agent Meshaka writes officially:

A letter has lately been received from Ahmed Izzet Pacha, second secretary of the Sultan, showing that the estimated cost of this enterprise (electric light and street railway) is \$260,000, and that consequently 24,000 shares are to be issued to be paid in three installments; the first on call, the second after three months, the third after six months, and that his excellency had intended to pay the whole cost, but, owing to his love for his country, invites his countrymen to subscribe first. A subscription for 4,000 shares (\$43,340) has been obtained through Mustafa Bey, his excellency's brother, who resides in Damascus, together with a mazbatta from the municipality of Damascus, confirmed by the administrative mejliss (council) of this province, engaging themselves to pay to the administration an annual sum of \$13,000 under the title of "Eclairage de la ville de Damas."

If the existing ban on electricity is soon to be abolished in Turkey, which the foregoing would seem to imply, it is earnestly recommended that Americans be on hand in Constantinople with bids for franchises and for supplies. There are as yet no electric plants in Turkey, but it is difficult to understand how anyone who without bias has watched the progress of the country during late years can doubt that the time has just about arrived when electricity will be given full sway in these dominions. The present Sultan has encouraged railroad building and the introduction of farm machinery. Why should not Turkey have electric light as it now has gas light, electric street cars as it now has steam trams, telephones as it now has telegraphs?

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *December 26, 1904.*

AMERICAN TRADE WITH SYRIA.

(From United States Consul Rarndal, Beirut, Syria.)

TRADE REVIVAL AT BEIRUT.

"After clouds, the sun shines," says a proverb, the correctness of which was proven in Beirut by the conspicuous increase in its commerce following sharply the stagnation which characterized August, September, and October, 1903, partly in consequence of internal troubles, the analysis of which more properly belongs to diplomatic annals. In one of my telegrams of that period I find the following (October 10, 1903):

For fall season losses in mercantile circles on sales alone are pretty certain to amount to 40 to 50 per cent; property values have declined 20 to 25 per cent; drafts accompanying bills of lading remain unpaid at the banks to an alarming extent; collections almost impossible; manufacturers in Europe have lost confidence in Beirut and demand cash in advance on shipments.

Losses on speculations in American cotton increased the gravity of the crisis.

Ordinarily, in the fall, merchants from towns and seaports between Port Said and Mersine flock to Beirut to make purchases for the following year. On account of the reported disturbances in Beirut many of these retail dealers were preparing to proceed to Smyrna or Alexandria to replenish their stocks. However, peace returned to Beirut and confidence to its merchants. For the first time, owing to the completion of the branch railroad line to Hamath, merchants from the cities of Homs and Hamath, and surrounding towns, who had been doing their business through Tripoli, came to Beirut with their exports of grain and bought imported goods in return. They found stocks of merchandise in Beirut low. This was due to circumstances already alluded to, and also to the high price of cotton and other irregular market fluctuations during 1902 and 1903. Owing to increased taxation on real estate and a feeling of personal insecurity, many wealthy Syrians had bought land or established branch offices in Egypt with a view of settling there permanently later on, and their Beirut business had been curtailed.

Hurry orders became the order of the day in Beirut, and soon the custom-house was filled to overflowing. Ever since November and December, 1903, trade has been flourishing. Crops were good, and furnished additional stimulus to commercial transactions. To this must be added the importation of materials and supplies for the Damascus-Mecca Railroad, the construction of which has now been completed as far as Ma'an, south of the Dead Sea. Generally speaking, 1904 was a record breaker.

While all the foreign countries selling to Beirut received their respective benefits from this prosperity, Italy, Germany, and the United States proportionately gained the most. Italy's advance as a factor in Syrian commerce is maintained principally at the expense of Great Britain and France (cotton and silk goods). Germany occupies a position of preponderance in Ottoman affairs, which manifests itself in growing trade as in other ways. The United States is gradually strengthening its foothold. An order for 20,000 tons of Pennsylvania rails for the Mecca Railroad was executed during the last fiscal year.

I have made most careful efforts to ascertain from the custom-house, the port company, merchants, etc., the exact value of imports and exports at Beirut during the last year, and I believe I am not far from the mark in declaring the total imports to have been \$12,918,800 and the total exports \$6,459,400. The value of the materials for the Mecca Railroad is not included in the import figures. England is the heaviest exporter to Beirut, with about \$1,000,000 for cotton goods alone. France heads the list of importers from Beirut with \$3,000,000 worth of silk thread.

AMERICAN TRADE.

Six years ago imports to Beirut from the United States hardly could be said to exist, as beyond books, scientific instruments, groceries, clothing, furniture, etc., sent for by our missionaries, the only imports of any importance of American goods were sewing machines, resold from Glasgow, but imports from the United States to Beirut during the last fiscal year, not counting railway supplies, amounted to \$202,790. This is all the more gratifying and remarkable, because our exporters have consistently adhered to their policy of precaution and prudence as to terms of payment, because the progress has been accomplished without lowering the standard of goods offered, and because our success in this market has been won without the aid of direct steamship facilities. With the added assistance of regular and direct carriage in American bottoms, our commerce would greatly increase in Levantine markets, and these are worth fighting for. Turkey's annual trade averages more than \$100,000,000 of imports and \$60,000,000 of exports; Greece looms up with imports valued at \$30,000,000 and exports amounting to \$20,000,000; Egypt's annual imports exceed \$60,000,000, and her exports reach a total of more than \$75,000,000. From these figures it will be seen that the commerce of the Levant has attained considerable dimensions, although it is yet in its infancy.

HOW TO IMPROVE AMERICAN TRADE.

American trade in Syria is handicapped by commissions exacted when goods pass from manufacturer to consumer. Manufacturers in the United States often deal with the foreign markets through an export

commission house in New York, and Syrian wholesale dealers most frequently (except in cotton fabrics) order their goods through some commission agent in Beirut. Commissions in New York and Beirut and wholesalers' and retailers' profits added to factory price, freight, customs duties, etc., render the article sold unnecessarily expensive. It would seem that our interests would be better subserved if the American export house, which often represents scores of manufacturers in different lines, maintained an office here well supplied with samples to deal directly with the Syrian wholesale trade. Such American branch establishments are now operating in Constantinople and Alexandria. In this way perhaps 2 to 3 per cent might be saved on commissions.

Besides, by such an advance movement on the part of American manufacturers and their representatives the paramount question of credits would be more or less eliminated. Syrian wholesale dealers are compelled, by the usage of centuries, to grant their clients liberal time. No commission house in Beirut gets more than sixty days from the New York commission firms, and even sixty days is a rare concession. But the New York commission agents, because they are thoroughly known to the American manufacturers, obtain without difficulty easier terms of payment, and if these had an office of their own in Beirut their privileges could be employed very effectively in extending trade in the Syrian markets. Finally it is patent that the Beirut agency of the New York commission house, studying, as it would daily, the requirements of the people and the needs of the situation, and understanding at the same time thoroughly the condition of American markets, would be in position to exploit Syria, and, at least to a considerable extent, Mesopotamia and Arabia.

It is of supreme importance that the seller and the buyer get together as closely as possible. We need more commercial travelers, genuine Americans, in foreign fields, and more American agencies (instead of depending upon Germans and Levantines), and more ships of our own. What commercial travelers of the right sort can accomplish in markets not in the front rank of civilization was illustrated by an Italian who came here three years ago. At that time Italy did no business with Syria in neckties and shirts; in fact, there were scant sales for these articles. On his first visit the Italian drummer sold 6,000 francs' (\$1,158) worth only. His firm now sends a commercial traveler twice a year to Beirut, and last year disposed of neckties and shirts in this market for 60,000 francs (\$11,580); while, during the same period, twelve other Italian commercial travelers, representing the same line of goods, made Beirut a port of call.

AMERICAN MANUFACTURES IN DEMAND.

Cotton goods.—So far, no expert representative of American manufacturers of cotton goods has ever visited this market, in which annually several million dollars' worth of articles change hands.

Leather and shoes.—American leather and American shoes have proved their superiority in this market. Shoemaking machinery (value \$10,000) has been imported from the United States to Beirut, also American lasts and leather; and the firm of Debbas, Khourani & Co. has been organized for the purpose of manufacturing shoes and selling leather on a large scale, not only in Syria, but also in Asia Minor and Egypt. Mr. Khourani, who became interested in this line of activity while in Chicago, during the World's Fair, is now on his way to the United States to establish business connections with our leather manufacturers.

Irrigating and milling machinery.—Agricultural, irrigation, and milling machinery from America has been successfully introduced into Syria during the last three years. An Indiana steam-thrashing outfit, the fourth of its kind to be started in my district (three American and one English), was bought at Haifa last summer. American reapers have passed the experimental stage, as have our thrashing machines, and our trade in petroleum engines for pumping (irrigation) purposes and for gristmills is also well organized. In the Hauran Mountains (Jebel, Druze), southeast of Damascus, six American oil-motor gristmills were installed last spring. They are a perfect blessing to that distant region, owing to the scarcity of water power.

Only two well-drilling machines (both made in the United States) were ever brought to this country, so far as my knowledge goes, although, for Syria's economic redemption, nothing is more needed than irrigation. One of these machines, run by steam, was operated for several years near Sidon under the supervision of American engineers in vain efforts to strike an artesian basin at the foot of Mount Lebanon. The work was undertaken by Americans who conduct an experimental farm in conjunction with evangelistic and educational mission work. Ordinary water in abundance was unearthed, and wells bored are operated by windmills and petroleum engines. However, the machinery employed seemed so intricate, and the running expense, including the salary of a foreign engineer, so heavy, that the natives never took to this method of tapping for the hidden treasure. The other well-drilling machine, to have been operated by horsepower, was brought to Beirut, but is still languishing in an obscure warehouse. It was intended for shallow wells, and would, no doubt, do excellent service if put to work. So far, no one has appeared familiar both with the country and the well-boring business. I would again call attention to an offer made by the firm of H. Sabbag & Fils, Beirut, Syria, published in my report in Advance Sheets of Consular Reports, April 12, 1900, to assist in paying the expenses of an American expert in irrigation matters to come here to canvass the field. Syria, Palestine, Mesopotamia, and Arabia, owing to the defective means employed to utilize the subterranean water supply, are justly called semiarid (in the case

of Arabia arid) regions. The introduction of boring and pumping machinery is certain to prove a great boon. All over these provinces are large tracts of land lying idle for lack of water which formerly, to no small extent, were served satisfactorily by the irrigation systems of the ancients, the ruins of which, even in the desert regions, compel our deepest admiration.

GERMAN IMITATION OF AMERICAN BEER.

American beer is in favor in this market, and has become a formidable rival of the Munich and Pilsener products. In fact, something suspiciously akin to German imitation of American beer has begun to appear in Beirut and Damascus. Under a separate cover I send a photograph^a of a bottle of Schlitz (American) and a bottle of Blitz (German). The Blitz beer made its appearance here very recently, and the shape of the bottle, the corking, the labels, etc., resemble the Milwaukee patterns so closely as to necessitate minute inspection if the difference is to be discovered. Blitz is so printed that it is frequently mistaken for Schlitz.

IMPORTS OF AMERICAN GOODS AT BEIRUT.

Imports of American products at Beirut, Syria, in the fiscal years 1899, 1901, and 1904.

Commodities.	1899.	1901.	1904.
Agricultural machinery and implements.....			\$17,929
Athletic goods.....			300
Bedsteads (iron and brass).....			1,267
Beer.....		\$7,400	11,655
Bicycles.....		140	105
Books and stationery.....	\$982	3,199	4,922
Boots and shoes.....		750	2,065
Building supplies (iron beams).....	219	4,140	2,116
Carriages.....		201	217
Clocks, lamps, plated ware, and jewelry.....	175	1,755	7,057
Clothing.....		1,023	946
Cotton goods.....		300	14,228
Drugs, perfumery, and toilet soap.....	270	97	1,574
Dry goods.....			1,214
Flour.....		250	165
Furniture.....		2,393	1,450
Glassware.....		51	119
Groceries.....		1,841	3,118
Hardware, tools, and iron pipes.....		5,886	7,179
Harness and saddlery.....		164	171
Ice cream freezers, meat grinders, etc.....			479
Irrigation machinery and pumps.....		300	6,722
Leather.....		2,150	7,124
Medical supplies.....			517
Milling machinery (petroleum engines).....			6,174
Miscellaneous.....	8,880	574	5,000
Nails (wire).....		14,669	14,257
Oleo oil.....			35,200
Paints.....		512	316
Phonographs.....		8,850	1,402
Photo articles.....		97	213
Pianos and other musical instruments.....		124	1,429
Sewing machines.....	45,000	45,000	45,421
Toys.....		72	221
Typewriters.....		75	675
Rails for Mecca Railroad.....			396,000
Total.....	50,526	102,023	598,790

^a On file in the Bureau of Statistics, Department of Commerce and Labor.

AMERICAN TRADE OPPORTUNITIES.

Our trade with Beirut is fairly well organized and has passed the experimental stage. However, there are opportunities not yet properly taken advantage of by our exporters. I would especially mention the matter of cotton goods in general; also iron and brass bedsteads, of which about \$100,000 worth a year are imported from England; enameled ware, of which \$130,000 worth was imported last year from Germany; tin plate and tin sheets, of which \$260,000 worth came from France, Belgium, and England; paint, of which Beirut consumed during the last fiscal year \$140,000 worth; also crockery, paper, flour, pumps, piping, iron beams, coal, and small hardware.

Manufacturers of paper may address E. G. Freyer, manager American Mission Press, Beirut, Syria, which annually consumes large quantities of Austrian paper in printing Arabic Bibles.

For the introduction of flour, I would recommend correspondence with Samuel Anderson, treasurer American University, Beirut, Syria, who also might like to receive samples of American athletic goods. The enrollment at the American University this year is 760. Students are drawn from Egypt, Greece, Asia Minor, Persia, Mesopotamia, and Syria. Samples in general and commercial literature should be forwarded without stint to Prof. Edw. F. Nickoley, principal department of commerce, American University, Beirut, Syria.

Requests for information as to the financial standing and commercial reputation of Beirut dealers may be addressed to S. Audi & Frères, Henry Heald & Co., E. G. Freyer, esq., Imperial Ottoman Bank.

Correspondence in regard to openings for American goods should be addressed to the following commission agents in Beirut: S. Audi & Frères (general), Michel J. Nasser (machinery), N. & G. Araman (hardware), Debbas, Kourany & Co. (leather and shoes), Tabbara & Co. (cottons), H. Sabbag & Fils (gas stoves, gas lamps, gas fixtures), Murad Baroudi (drugs, perfumery, toilet soaps, etc.), Najib Letayf or Fadoul Ribeiz (groceries).

NEW YORK-BEIRUT CARRYING TRADE.

At present most of the carrying trade between New York and Beirut is in the hands of Italians. Steamers of the Navigazione Generale Italiana cover the distance, including transshipment of goods at Naples, in twenty-five to thirty days, while goods sent via Liverpool, Hamburg, or Trieste are often three and four months in transit. American exporters are referred to Hirzel, Feltman & Co., 11 Broadway, New York, agents for the Italian steamers.

Agents in Beirut complain bitterly of the expense and trouble incurred in getting samples from America. A parcels-post treaty with the Sublime Porte would seem to be highly desirable in the interest of trade between the two countries.

SYRIAN EXPORTS TO THE UNITED STATES.

The total exports from Syria to the United States, as far as my district is concerned, was \$462,954, as against \$402,636 for the preceding year. Leading items of export to the United States are wool, rugs, silk, and cotton stuffs (hand woven), bitumen, cotton lace, olive oil, sesame oil, skins, and provisions. Considerable quantities of exports in small lots do not figure in the consular returns. To correct this, certified invoices should be required for all shipments worth more than \$25. Emigrants to America are known to have smuggled in cotton lace hidden in their bedding.

COMMERCIAL GROWTH OF BEIRUT.

Beirut as a commercial center is growing in importance at a rate undreamed of a few years ago. This progress is largely due to railroad building. It may be proper to add that the consular district of Beirut extends from Antioch, not far from Aleppo, to the Red Sea, and east as far as Palmyra, comprising all the intervening territory, except the independent Mutessarrifiate of Jerusalem.

G. BIE RAYNDAL, *Consul*.

BEIRUT, SYRIA, December 26, 1904.

Value of trade of the United States with Turkey in Europe, 1875 to 1904.^a

Year ended June 30—	Imports from Turkey in Europe.	Exports to Turkey in Europe.	Year ended June 30—	Imports from Turkey in Europe.	Exports to Turkey in Europe.
1875.....	\$72,459	\$3,454,795	1890.....	\$1,426,549	\$15,225
1876.....	29,285	2,499,776	1891.....	1,854,675	27,031
1877.....	46,714	8,344,522	1892.....	2,028,208	28,951
1878.....	2,891	3,884,919	1893.....	2,215,464	45,899
1879.....		3,989,230	1894.....	1,657,218	85,166
1880.....	29,835	1,443,596	1895.....	2,097,702	41,733
1881.....	283,126	619,419	1896.....	2,665,127	34,905
1882.....	278,866	1,344,470	1897.....	2,766,094	54,767
1883.....	488,612	679,946	1898.....	2,119,337	139,075
1884.....	857,133	615,866	1899.....	2,359,830	\$54,457
1885.....	880,631	420,166	1900.....	3,930,866	340,537
1886.....	648,402	1,157,648	1901.....	3,386,782	392,968
1887.....	1,086,071	285,398	1902.....	4,935,346	604,775
1888.....	1,004,820	183,216	1903.....	5,672,578	496,785
1889.....	1,024,290	25,099	1904.....	3,890,597	461,351

Value of trade of the United States with Turkey in Asia, 1875 to 1904.^a

Year ended June 30—	Imports from Turkey in Asia.	Exports to Turkey in Asia.	Year ended June 30—	Imports from Turkey in Asia.	Exports to Turkey in Asia.
1875.....	\$317,056	\$473,388	1890.....	\$2,437,108	\$29,669
1876.....	360,543	603,556	1891.....	2,810,293	92,802
1877.....	235,882	516,330	1892.....	2,898,833	177,399
1878.....	428,096	632,180	1893.....	3,583,197	132,762
1879.....	543,330	364,902	1894.....	2,204,973	107,162
1880.....	984,024	163,633	1895.....	3,089,951	130,535
1881.....	875,703	289,922	1896.....	3,266,205	41,518
1882.....	1,990,603	484,696	1897.....	4,009,027	74,899
1883.....	1,360,244	398,975	1898.....	2,325,078	243,130
1884.....	2,436,016	481,809	1899.....	3,284,250	167,543
1885.....	2,036,799	433,083	1900.....	3,823,371	226,635
1886.....	3,016,867	221,862	1901.....	3,897,854	194,162
1887.....	3,616,306	179,213	1902.....	3,960,384	169,777
1888.....	3,059,488	143,861	1903.....	4,897,422	276,822
1889.....	3,015,236	45,371	1904.....	5,693,177	648,883

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

SPIDER-SPUN SILK.

(From United States Consul Hunt, Tamalave, Madagascar.)

A good deal of interest has been raised for some time by the Official Quarterly Economic Review as to the practical uses to which the webs of a large Madagascar spider might be applied to replace silk for woven fabrics. I know, from visits to the interior, that the webs, spun many feet across the walks or shady avenues of gardens, are sufficiently strong to hang thereon a light bamboo walking cane. At the Paris Exposition of 1900 a whole piece of fabric, 18 yards long and 18 inches wide, was exhibited which was woven out of this web, for which it was necessary to provide 100,000 yards of spun thread of 24 strands. For its manufacture 25,000 spiders had to be brought into requisition, and these were procured by offering the natives so much a hundred; but not knowing or ignoring the purposes for which the insects were required, and having a get-rich-quick desire, they brought them in by basketsful, mostly dead. So it was found necessary for the winding-off machines to go to the spiders, instead of calling in the spiders to the filatories. However, the piece of cloth was completed, and was of a shimmering golden-yellow color.

The idea of obtaining silk of the spider is an old one, as distinguished men discoursed on the subject as long ago as 1710 in France, but the first study of this Madagascar spider (*halabe*, big spider) came up some seven years ago, and the spinning of its web was then undertaken. It is only the female that spins.

The first difficulty in securing the thread direct from the insect consisted in contriving how to secure the living spider so as to wind off by some mechanical process from the insect. This was originally performed by confining the spiders in empty match boxes with the abdomen protruding, which could be compared to so many reels from which the filatory winds them off. The extraction of the web does not apparently inconvenience the insects although care has to be taken not to injure them. From that stage was derived a frame of 24 small guillotines, in each of which a spider is secured in such a manner that on one side protrudes the abdomen, while on the other the head, thorax, and legs are free. This precaution of keeping the legs out of the way is necessary, because the spiders, when their secretions are spun off in this fashion, are liable to break off the web with their legs.

It appears, in the opinion of many, to be an established fact that the Madagascar spider's web is capable of being woven into cloth which might warrant its cultivation for purposes of textile industry. The idea of using cobwebs as a hemostatic was known to the Greeks and Romans, and before the present antiseptics were brought into use by medical science it was in universal use for stopping the flow of blood

from wounds and cuts. From an industrial point of view, the silk of the spinning spider (*Epeira*) has been known for centuries, even by the savages of Paraguay, and in the seventeenth century one Alcide d'Orbigny in South America ordered a pair of trousers of the material. Consul Plumacher, in his report of December 26, 1899, refers to the existence of a spinning spider in Venezuela, which is apparently the same insect.^a

The Madagascar spider in question is the *Nephila madagascariensis*, and has all the general characteristics of Arachnida. Its bite is not dangerous, although the irritation caused by its legs is annoying. The egg which produces this spider is laid by the female in a silky cocoon, 1 inch in diameter, of a yellow color at first, but turning white after an exposure of two or three months to the air, at the end of which time several hundred insects, the size of a pin head, burst the shell and come out. Three months later the female is 2½ inches long, while the male remains only one-sixth of that size. The female is generally black, lives in solitude, and only tolerates the presence of the male at the moment of procreation. The spiders are carnivorous and by preference frequent the forests. In some of the wooded gardens in the suburbs of the capital, especially the old royal parks, they may be seen in millions, and would give the impression of being gregarious, but this is not so, it being the abundance of food which brings them together in seeming peace and amity; but so soon as the supply fails, they fight and devour each other.

In the early attempts to rear them, 200 were placed in a wire-cloth case; they spun their webs over the walls of their prison until it was so completely covered that no mosquitoes or other insects could get in. Thus deprived of food, on the principle of the survival of the fittest the stronger went to devouring the weaker until only a few were taken out alive, but these had attained an enormous size.

This spider is little disposed to migrate from its abode, and submits, without resistance, to the manipulation of the filatory.

The first experiments in Madagascar were due to a Catholic missionary, and his experience proved that after the laying period, or forma-

^aSILK-SPINNING SPIDERS IN VENEZUELA.—Consul Plumacher, of Maracaibo, under date of December 26, 1899, reported that large silk-spinning spiders are found in the palm trees of Venezuela. Some produce white and others yellow silk. The consul understands that the silk has been made into handkerchiefs. A copy of the report, together with a specimen of silk which accompanied it, was referred to the Department of Agriculture. Under date of January 27, 1900, the entomologist says that silk produced in this way can not be made valuable commercially because of the troublesome necessity of keeping the spiders separated to prevent their devouring each other. To keep them supplied with food—insects—also involves considerable labor. Attempts to utilize the silk of a Madagascar spider of the same species some years ago resulted in the discovery that the product was more expensive than ordinary silk.—*Republished from Consular Reports for March, 1900, No. 234.*

tion of the web, it can be reeled off five or six times in the course of a month, after which the spider dies, having yielded about 4,000 yards. Native girls do the work. Each one has a straw basket at her side every morning filled with live spiders, and another basket to receive them after they have been wound off. One dozen are locked in at a time, the ends of their webs are drawn out, collected into one thread, which is passed over a metal hook, and the reel is set in motion by a pedal. So soon as an insect gives out no more web it is replaced without stopping the wheel, and later on carried back to the park, where it requires nine or ten days before being ready for a second operation. The cost of this silk web is high; 55,000 yards of 19 strands in thickness weigh only 25 grams (386 grains), which, calculating the time and labor of procuring and preparing it, brings it up to \$40 a pound.

WM. H. HUNT, *Consul*.

TAMATAVE, MADAGASCAR, *November 23, 1904.*

SUGAR IN EUROPE.

(*From United States Consul Hoesfeld, Trieste, Austria.*)

Owing to a very dry summer the sugar-beet crop of Europe is smaller than it has been for several years. In spite of an increased acreage the total crop is about 20 per cent less than it was in 1903. While Europe produced last year 5,772,000 tons of raw sugar, this year's production will not exceed 4,650,000 tons, and the estimates of some of the best European authorities are even below this figure.

The various sugar-producing countries of Europe may be divided into exporting and nonexporting, or treaty and nontreaty countries. The former, all parties to the Brussels convention, consist of Germany, Austria-Hungary, France, Belgium, and The Netherlands. Their aggregate production of raw sugar in the current season is estimated at 3,360,170 tons. As these countries produced 4,208,996 tons last year, their loss amounts to nearly 850,000 tons. Reductions made in customs and internal duties have caused, in the various treaty countries, an increase in the home consumption of sugar ranging from 15 to 30 per cent, and this has diminished correspondingly the quantities available for export.

In the nontreaty countries—Russia, Sweden, Spain, Italy, Denmark, and Roumania—the estimated production in the present season is 1,262,570 tons. Compared with the year 1903–4, there is a loss of over 300,000 tons, and this loss (except in the case of Russia, which is still more than self-supporting), must be made up by increased imports.

The following table gives estimates of the quantities of sugar produced during the current season, together with the quantities produced during the season ended September 30, 1904:

160 WEIGHTS AND MEASURES OF THE DOMINICAN REPUBLIC.

Production of beet sugar in the several European countries in 1903-4 and 1904-5.

Country.	Production of 1903-4.	Estimated production of 1904-5.	Country.	Production of 1903-4.	Estimated production of 1904-5.
<i>Exporting.</i>			<i>Nonexporting.</i>		
	<i>Tons.</i>	<i>Tons.</i>		<i>Tons.</i>	<i>Tons.</i>
Germany	1,929,415	1,518,070	Russia	1,160,660	945,550
Austria-Hungary	1,158,800	914,800	Sweden	107,241	88,526
France	794,431	614,300	Spain	90,000	65,000
Belgium	202,850	179,100	Italy	140,000	80,000
Netherlands	123,500	133,900	Denmark	47,000	48,000
			Roumania	18,000	16,000
Total	4,208,996	3,360,170	Total	1,562,901	1,262,570
			Grand total	5,771,897	4,623,740

Only the Netherlands and Denmark made slight gains, while all the other countries sustained losses ranging from 1 to 50 per cent.

TOTAL BEET AND CANE SUGAR PRODUCTION.

On September 1, 1903, when the Brussels convention went into effect, the world's surplus of sugar was, in round numbers, 2,000,000 tons. At the beginning of the present season this surplus was reduced to 1,427,000 tons. Adding to this the estimated production of the year 1904-5, namely, 4,623,000 tons of beet sugar and 6,900,000 tons of cane sugar, we have for the current year a total of 12,950,000 tons available for consumption. As the world's consumption in the year ended August 30, 1904, was somewhat in excess of 13,000,000 tons, it follows that sugar will have to be used somewhat more sparingly in 1905 than it was in 1904, and this explains the recent sharp rise in the price of the article.

It is, however, not likely that the present prices will continue for more than eight or ten months. There will be, in consequence of the high price which sugar now commands, not only a decrease in the consumption of the article, but also a large increase in the acreage of beets and cane planted; and a propitious season may cause prices to be as low or even lower next autumn than they were at the time of the Brussels convention.

FREDK. W. HOSSFELD, *Consul.*

TRIESTE, AUSTRIA, *December 16, 1904.*

WEIGHTS AND MEASURES OF THE DOMINICAN REPUBLIC.

(From United States Consul-General Dawson, Santo Domingo, Dominican Republic.)

By a decree dated December 15, and published December 17, 1904, the Dominican Government has fixed the equivalents of the measures and weights in common use with the legal, or metric, system.

Dominican weights and measures and their American and metric equivalents.

Dominican.	American.	Metric.
Measures of length:		
1 ona.....	3 feet, 10.79 inches.....	1.1884 meters.
1 yard.....	35.996 inches.....	0.9143 meter.
1 vara.....	32.91 inches.....	0.836 meter.
1 foot.....	10.945 inches.....	0.278 meter.
1 inch.....	0.9055 inch.....	0.023 meter.
1 line ^a	0.0787 inch.....	0.002 meter.
Surface measures:		
1 tarea ^b	0.1554 acre.....	628.86 square meters.
1 area.....	0.2471 acre.....	1,000 square meters.
Liquid measures:		
1 bottle.....	0.7392 quart.....	720 grams.
1 gallon.....	3.3265 quarts.....	3 liters 240 grams.
Dry measures:		
1 fanega.....	1.575 bushels.....	55 liters 500 grams.
1 almud.....	0.1596 bushel.....	5 liters 625 grams.
1 cuartillo.....	0.0328 bushel.....	1 liter 156 grams.
Weights:		
1 ton.....	2,028.232 pounds.....	920 kilograms.
1 quintal.....	101.412 pounds.....	46 kilograms.
1 arroba.....	25.353 pounds.....	11.5 kilograms.
1 pound.....	1.014 pounds.....	460 grams.
1 ounce.....	0.06338 pound, or 1.014 ounces avoirdupois.	28.75 grams.
1 adarme.....	27.78 grains.....	1.8 grams.
1 grain ^c	0.7706 grain.....	5 centigrams.

^a 12 lines=1 inch; 12 inches=1 foot; 3 feet=1 vara; 3 varas=1 vara conuquera.

^b A tarea is a square, each of whose sides is 30 varas. It is the usual measure of land.

^c 36 grains=1 adarme; 16 adarmes=1 ounce; 16 ounces=1 pound; 25 pounds=1 arroba; 4 arrobas=1 quintal; 20 quintals=1 ton.

It will be noted that in calculating the metric equivalents given in the decree the decimals have in some cases not been carried out far enough to give commensurable proportions between all the members of each series. Being established by a decree, the foregoing equivalents of the metric system are the legal ones.

T. C. DAWSON, *Consul-General.*

SANTO DOMINGO, DOMINICAN REPUBLIC,

December 28, 1904.

LONDON CHARITIES.

(From United States Consul-General Evans, London, England.)

It is said that there are in London about 2,000 charitable institutions and organizations to further the cause of progressive and advanced civilization. The number includes large and small institutions, affording more or less relief to the afflicted and those in distress. They are supported almost entirely by personal contributions and not from the rates (taxes) upon the general sources of revenues.

In the latest edition of the Classified Directory of Metropolitan Charities, showing the year's charity or results of charitable effort, some details are given of the approximate income of 724 of the principal ones. From this report it is shown that these 724 institutions received for the financial year 1903-4 £7,087,979 (\$34,493,650) as compared with £6,950,135 (\$33,822,832) in the preceding year.

Principal charities of London and their incomes.

Principal charities.	Number of charities.	Income.	
Charities for the blind, deaf and dumb, incurables, etc.....	38	£224, 073	\$1, 090, 451
Hospitals of various classes.....	163	1, 209, 594	5, 846, 440
Institutions for the aged.....	92	610, 890	2, 970, 473
Institutions for general relief.....	89	457, 290	2, 225, 442
Homes, orphanages, reformatories, etc.....	227	1, 442, 539	7, 020, 115
Bible, book, and tract societies.....	12	425, 241	2, 069, 445
Home and foreign missions.....	99	2, 699, 087	13, 135, 157
Church and chapel building funds.....	4	19, 765	96, 146
Total.....	724	7, 067, 979	34, 493, 651

H. CLAY EVANS, *Consul-General.*LONDON, ENGLAND, *January 3, 1905.***COAST TRADE FROM HANGCHAU TO SHANGHAI, CHINA.***(From United States Consul Anderson, Hangchau, China.)*

Practically all of the tea raised in the provinces of Anhwei and Chekiang and practically all of the silk produced in this part of China pass through the port of Hangchau. A large proportion of it goes to the United States; but little is shipped direct. The products are sent to Shanghai, where Chinese middlemen handle them. Direct purchases by American silk and tea men from the producers would save large middle profits, but the existence of silk and other trade guilds in China is likely to prevent much direct business being done. The Chinese merchants have had complete command of the tea and silk products of the Empire for many years, and they probably have an organization too effective for the middlemen to be done away with altogether.

Whether Hangchau will ship goods direct to the United States in the near future is very doubtful. The famous Hangchau bore, in Hangchau Bay, prevents ocean-going vessels from making this a port of call. The difficulties of ocean traffic along the coast in view of this bore and the shifting sands of the bay make it impracticable for coasting vessels to compete with canal junks for freight business to Shanghai and other Chinese ports. The Grand Canal and its branches offer practically perfect water transportation out of Hangchau. Vessels large enough for ocean trips can pass up and down the main canal and the Whangpu River and have the advantage over other vessels of being able to go in and out of small creeks in the harbor at Shanghai. The result is that the tonnage of ocean vessels registered in Hangchau at present is practically nil, while that registered for canal use is very large, 3,764 steam tugs, 8,382 passenger boats, and 9,363 freight boats having cleared last year. Shanghai is credited with a large amount of trade which belongs to outports, chiefly Hangchau.

Hangchau is the center of probably the richest district in China, and is reasonably certain to grow in trade until it is probable that some sort of ocean traffic arrangements will be made. The coastwise shipments out of Hangchau as reported by the customs authorities, the figures not including the likin route shipments and representing only a part of the coast trade, were, in gold values, in 1903, \$5,742,118, as compared with \$4,987,411 in 1902, and \$4,071,187 in 1901. Reports thus far, this year, indicate that the record for 1904 will be in line with this general advance. There has been a large increase in the exports of tea by way of Hangchau which is likely to be continued. At present practically all but Pingsuey tea goes by way of this port, the Pingsuey product going by way of Ningpo. The latter tea is grown in the southern portion of Chekiang Province, but it is as near Shanghai via Ningpo as it is by way of Hangchau, and shipment by way of Ningpo does not involve so many transshipments.

It will be a long time before coastwise shipments by canal give way to ocean shipments, the Chinese proclivity for doing things by piecemeal instead of in large volume being one of the elements in the situation. At present canal trade is less expensive, in that it involves fewer risks and less capital. The canal system is holding back railroad enterprise by furnishing cheap transportation in all directions for men and goods.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *November 23, 1904.*

TRADE AND POSSIBILITIES OF ARABIA.

(*From United States Consul Ravndal, Beirut, Syria.*)

TRADE OF ARABIA.

The peninsula of Arabia has an area of some 1,200,000 square miles, with a population estimated at from 6,000,000 to 10,000,000. The Turkish province of Yemen is most populous, and is highly fertile. Aden has a total export and import trade of some \$30,000,000, and buys from the United States cotton piece goods, petroleum, flour, etc., to the value of over \$1,500,000. The United States has a consul stationed at Aden. I refer to these figures because they contribute to the illustration of Arabia's economic and commercial capacity as a whole. Aden merchants supply Abyssinia to a large extent. Muscat is the center of a considerable trade, valued at some \$4,000,000. Bahrein, farther north in the Persian Gulf, exports pearls (via Bombay to Europe and America) to the value of \$2,000,000 annually. Concerning the trade of Hodeida, Jedda, and Yambo, available statistics are defective. Hodeida has taken the place of Mocha as an outlet for Arabian coffee; its commerce is valued at \$11,000,000.

The Jedda trade, almost wholly imports, amounts to about \$4,500,000. What the total exports and imports of Arabia are can only be guessed. Considerable business with Arabia is transacted at Bosra, Bagdad, and Beirut, and in Egypt. According to our consular returns the United States bought from Arabia during the fiscal year ended June 30, 1903, skins, coffee, ivory, dates, etc., to the value of \$2,956,951. It is to be remembered, however, that our consular invoices cover only the ports of Aden, Hodeida, and Muscat.

CLIMATE.

It is the vicinity of the African Sahara that prevents Arabia from enjoying, as India does, the full benefit of the moist winds from the Indian Ocean. The climate of the coasts of the Red Sea and the Persian Gulf is anything but ideal; its unhealthfulness has become proverbial, and in the interior there are deserts surpassing the Sahara itself in absolute aridity, barrenness, and intensity of heat. Yet it is unquestionably true that Arabia has been harshly judged as to climate and soil, perhaps because the average man derives his knowledge of it from stories told by sailors passing through the Red Sea. All northern Arabia has a winter season, with cold rains and occasional frosts. Mount Tobeyk, in northwestern Arabia, is covered with snow all winter. Neid has a salubrious climate, while in the highlands of Yemen and Oman there are mountain peaks as high as 12,000 feet and valleys of extraordinary fertility. Perhaps two-thirds of Arabia is cultivable land, while the remaining third, situated chiefly in the southern part, is apparently irreclaimable desert.

IRRIGATION POSSIBILITIES.

Many of the great wadies or gulches of Arabia are full to overflowing in the winter, although dry nine months of the year. What may be accomplished by irrigation, according to modern principles, remains to be seen. Wells can be easily sunk in these tremendous waterbeds, one of which is said to flow from the Hedjaz across the peninsula for nearly 800 miles in a northeasterly direction toward the Euphrates. The entire region of Hasa, the Turkish possession to the northeast, is full of underground water courses and perennial springs. The caravan routes follow the course of these gulches.

POSSIBILITIES OF ARABIA.

In the public press at rare intervals attention is directed to Arabia, and one may read of "the stifling of Arabia's intellectual development by the powers that be, and of a coming reawakening to a freer and higher existence." Attention is called to the great reform revival of the Wahabis about one hundred years ago, which swept the peninsula from Kerbela to Jedda and established an Arab caliphate at Mecca.

recalling to Europe the scourge that came out of the western Arabian oases in the seventh century. It is no doubt true that comparatively few people realize fully Arabia's possibilities. Here is a region larger than India, which has begotten one of the greatest of all creeds, and one of the most widespread of languages. The marvelous capacity of the Arab race is revealed by their wonderful history, and a belief in their future is strengthened by the fact that in direct contrast to most races who have fallen from their high estate they retain to-day all the virility and masterly qualities of mind and body which carried them to conquest and empire under Mohammed and his successors. For several centuries they played an important part in the world's history, advancing in a career of victory to found great dominions in Spain, Africa, and Asia. They were the great teachers in arts and sciences, and what the colleges of Bagdad were for Asia the famous university of Cordova, with its numerous academies and schools, was for Europe. Students from all countries flocked to their teaching, and in their public libraries, one of them said to contain 600,000 volumes, were to be found important works on geography, history, philosophy, medicine, physics, mathematics, and especially arithmetic, geometry, and astronomy.

"Had the Wahabi power continued," so writes an "Orientalist" from Cairo to the Egyptian Gazette, "Arabia would probably have been a highly civilized and flourishing Mohammedan country at the present time. But when in 1818 the Turks destroyed all this fresh machinery of Arab civilization and development they substituted nothing in its place."

One hears such remarks frequently, and it may as well be stated, inasmuch as the question of Arabia's growth toward civilized life is being considered, that they probably are based on a misapprehension. The reform sought by the Wahabis was essentially a religious one, and involved primarily a return to primitive Islam. It is claimed that the Wahabi rule in Arabia was marked by strict and impartial justice, that it reformed religion and morals, punished crime severely, and established a highly efficient system of police throughout the land, enabling caravans and travelers to journey upon all the roads in perfect security. The Wahabism of Nejd was no doubt an honest reform movement, but it took no account of modern civilization and the ten centuries that had modified the very character of the Arabs of the towns, not to speak of those outside Arabia. Wahabism is subdued in Arabia, but is far from dead. It may break out at any time, and the Mecca Railroad may serve as a pretext.

In this connection I wish to quote a passage from the Four Track News for October, 1904, which seems to contain more than one grain of truth, and also to be somewhat *à propos* in closing these observations:

Railways are pushing themselves into every corner of the globe. In their wake come better conditions and civilization gets a foothold.

That is indeed a benighted country that does not feel the influence of the greatest civilizing and developing factor of the centuries. After the railway penetrates "Darkest Africa," "Darkest Africa" will cease being dark.

G. BIE RAVNDAL, *Consul.*

BEIRUT, SYRIA, *November 12, 1904.*

INTERNATIONAL CYCLE, MOTOR BOAT, AND AUTO-MOBILE EXHIBITION, COPENHAGEN.

(From United States Consul Frasier, Copenhagen, Denmark.)

The Cycle Dealers' Association and the Motor Trade Union of Copenhagen, cooperating with the manufacturers, wholesale dealers, and others engaged in the trade, have arranged for an international exhibition of automobiles, bicycles, motor cycles, and motor boats to be held in the spacious "Tivoli Gardens," Copenhagen, the coming spring.

In no country is the bicycle more popular with all classes than in Denmark. The demand has increased steadily since its introduction here, and dealers in bicycles, motor cycles, and automobiles declare that Denmark will always be a rich market for this class of vehicles. The country is level, rich in beautiful scenery, and maintains over 4,000 miles of macadam highways. The Danes are, without exception, enthusiasts for outdoor life. Each Sunday and holiday thousands of people leave Copenhagen on their wheels for the neighboring forests. The automobile and motor cycle are not so well known, but the latter, especially, is destined to be very popular here. The automobile has been adopted by the Danish Government for delivering mail throughout the country wherever stage coaches are now in use. Motor boats are becoming more popular yearly as pleasure crafts on the sound and in the lakes and fiords. Manufacturers desirous of increasing their trade in Scandinavia should secure space at the exhibition.

GENERAL CONDITIONS.

1. The exhibition is to be held between March 15 and April 9, 1905, the exact dates to be made known later, to continue for eight days, the committee reserving the right to prolong same two or three days if deemed advisable.

2. The committee in charge will be selected from members of the various associations interested.

3. The committee will issue a catalogue containing a list of all exhibits; space for advertisements will be reserved.

4. The exhibition is to consist of the following: (a) Bicycles (including carriers); (b) motor cycles and trailers; (c) motor boats (which

may be exhibited either in the halls or on the lakes in the "Tivoli"); (d) motor cars (automobiles) for the conveyance of passengers or goods; (e) all accessories and fittings for articles mentioned under a, b, c, and d; (f) outfits and clothing for cyclists and motorists; (g) books, plans, maps, etc.

5. Rent of space is fixed at the rate of 40 cents per square foot, including erection of platform and cloth on same; expenses of all other decorations are to be borne by exhibitor.

Charges for wall space and other special arrangements will be according to agreement. A charge of \$14.60 will be made for every boat lying in the Tivoli lake. The space charges for boats in the halls will be 12 cents per square foot and for motor cars 20 cents per square foot. Exhibitors must arrange for necessary supports.

Further detailed information may be obtained from Mr. L. Bendixen, Copenhagen, with whom American manufacturers should instruct their European representatives to correspond.

DANISH DUTIES.

The duties on automobiles complete, bicycles, and motor cycles in parts, are \$3.35 per 100 kilos (220.46 pounds); bicycles and motor cycles complete, 10 per cent ad valorem. Importers of bicycles and motor cycles advise having rubber tires removed in order that entry may be made of the machines as "cycle parts."

IMPORTS OF BICYCLES INTO DENMARK.

The available statistics of imports of bicycles are so involved that it is not possible to furnish a reliable statement. There are perhaps 150 automobiles in use in Denmark. One American machine retailing for less than \$1,000 is well known. The United States had a monopoly in the bicycle trade for several years and still has in the highest grade machines, but in the total value of imports Germany undoubtedly now stands at the head. The demand for cheaper grade wheels is large, and in this line it is difficult for our manufacturers or the English to compete with the Germans.

Statistics for 1903 show that \$359,978 worth of cycles and cycle parts were imported into Denmark, of which \$283,785 represented imports for consumption; that \$73,968 worth were from the United States; that in addition there were imported from the United States during the same period 1,600 cubic feet of cycles and cycle parts, and 24,000 pounds of automobiles.

RAYMOND R. FRAZIER, *Consul*.

COPENHAGEN, DENMARK, *January 3, 1905.*

NEW BRITISH PATENT LAW.

(From United States Consul Boyle, Liverpool, England.)

The new British patent law, passed in response to a long-standing and urgent demand for reform, came into full operation on January 1, 1905. It is a matter of considerable importance to American inventors, as for many years past about one-fifth of the patents issued by the British office have been to Americans. In 1903 the total number of patents granted by Great Britain was 15,718, of which 3,466 were to Americans.

It has always been complained that a British patent was not only expensive, but that it afforded no guarantee that it had not been wholly or in part described or claimed in some prior specification. In this country the American patent law generally has been pointed to as the best model. The German law has also been commended, it being to a great extent copied after the American law, but British experts criticise the laws of both countries, particularly as to the power of the commissioner in America to refuse a patent on his dictum that the invention had been anticipated. An attempt has been made in the new British law to meet some of the objections raised against both the American and the German laws. There is also provision in the new law to remedy what was considered to be in some cases a great injustice to the British people through the holding of British patents by foreigners, particularly by Germans. In these cases the British market was flooded with German-made goods under British patents, when the holders of these patents had refused to manufacture the articles or permit them to be manufactured in this country.

There is some difference of opinion among experts as to whether the new British patent law is really a reform. Although Liverpool is not a manufacturing center, it probably has more connection with patents, legally and through agencies, than any other city in the United Kingdom outside of London. Locally there is some difference of opinion as to the value of the new law. The general opinion is favorable, but one of the leading patent experts in Liverpool sums up his criticism as follows:

On the whole, the new law simply shortens the length of provisional protection, makes the granting of patents more uncertain, increases the cost very greatly, and makes it more expensive than it was before to obtain a compulsory license, while at the same time there is absolutely no guarantee that the patent when granted is new or patentable.

The following is a summary of the principal features of the new act:

(1) *Novelty*.—The patent office is required to examine every application which reaches the complete stage to ascertain whether it has been wholly or in part described or claimed in any prior specification other

than a provisional specification (not followed by a complete specification) published in the United Kingdom during the fifty preceding years. This is really the most important feature of the new law and its administration has required an extensive reorganization of the British patent office. It was the inevitable delay consequent on this reorganization which made it necessary to postpone the going into full effect of the new law until January 1, 1905, although the law was passed in 1902. To facilitate search the whole of the specifications and abridgments from 1855 to date have had to be arranged and attached to reference cards, of which there have been about 600,000 arranged. It is intended also to include all the specifications from 1617 to date.

Under this law "any new art, manufacture, or composition of matter, new combination of two or more known parts producing a new advantageous result, or any new chemical or other process or improvement on existing processes, may be validly patented." When an application for a patent reaches the patent office it is referred to examiners, of whom under the new law there are 92. A special fee of \$5 is charged for this examination. The patent office has no power to reject a patent as being old (except in the case of a third party intervening and successfully opposing the application), but if in the opinion of the examiners a single patent covers the invention in its entirety it is referred to the controller, who hears the applicant if necessary. If satisfied that the patent is entirely covered by a prior patent he can "indorse" the patent as so covered and issue it, such form of issuance, however, being subject to appeal to the attorney-general. If, on the other hand, the examiners find the patent claim only partially covered by prior applications the applicant is notified, and he can amend or can contest the examiners' objections before the controller. Here again an appeal can be made to the attorney-general. If this contest and appeal be decided against the applicant, the patent is issued with a note appended on the specification making reference to such prior patents as the controller considers anticipate the new patent to a greater or less extent. If there be no objection by the examiners, or if the objections have been overcome, the patent is issued without any memorandum indorsed thereon. It should be particularly observed, however, that the patent, even under the new law, does not necessarily insure validity, that still being a question open for contest before the courts; and it is still the case as put by an American expert critic of the old law that "an English patent which has not been successfully litigated is naturally an object of suspicion." Still, if the patent is issued without a note appended thereto, referring to a prior patent, it is *prima facie* evidence that it is genuine and valid.

(2) *Provisional protection.*—The right of provisional protection has

been reduced from nine months to six months for the United Kingdom, while at the same time if the patent is filed in a foreign country the period of provisional protection is extended to one year.

(3) *Compulsory licenses*.—Formerly a foreigner or other inventor could take out a patent in England and hold it without working it or allowing other people to work it in this country. The only recourse a manufacturer or other interested party had to force the foreigner or other holder to grant him a license to manufacture under the patent was to petition the board of trade, which heard the petitioner and the patentee and then decided whether it would compel the patentee to grant the license or not. The new law requires that the applicant for a compulsory license must not merely obtain the consent of the board of trade, but that he must also secure the consent of the privy council. Not only can the privy council compel the patentee to grant licenses in this country, but if he fails to satisfy the court that he has fulfilled the reasonable requirements of the public his patent can be revoked, but not before the end of three years from the date of the patent.

Probably the strongest criticism of the new law is in regard to the great expense attached to compulsory licenses and revocation, as above explained. It is claimed that under the old law, when petitions for compulsory licenses were made only to the board of trade, there were very few such petitions made because of the great expense; but under the new law application must also be made to the privy council, which is the most expensive court in the country. It is believed that the new law will very much curtail the business of patent agencies, although it will very likely increase the legal expenses incidental to securing a compulsory license.

JAMES BOYLE, *Consul*.

LIVERPOOL, ENGLAND, *January 6, 1905.*

STUDENTS IN GERMAN UNIVERSITIES.

(*From United States Consul Liefeld, Freiburg, Germany.*)

According to statistics just published in a Friburg newspaper, the attendance of students who are matriculated at the several German universities was as follows:

This winter semester there are in Germany 39,716 matriculated students, against 39,581 during the past summer semester, and 39,718 last winter. At the beginning of the nineties there were in round numbers 29,000 students, and in the winter of 1894-95, 28,105; the third ten thousand was not reached until the winter 1897-98, when the number was 31,110, since which time there has been a steady increase until now, when the fourth ten thousand has been nearly reached. The numbers of those in attendance at the several universities during the

winter semester 1894-95, the present winter semester, and the two previous semesters, were as follows:

Students in the German universities during semesters in 1894-95, 1903-4, 1904, and 1904-5.

University.	Winter 1894-95.	Winter 1903-4.	Summer 1904.	Winter 1904-5.
Berlin.....	5,081	7,508	6,096	7,774
Munich.....	3,475	4,906	4,946	4,768
Leipzig.....	2,985	3,772	3,575	3,880
Bonn.....	1,518	2,294	2,818	2,568
Halle.....	1,539	1,753	1,780	1,881
Breslau.....	1,298	1,770	1,800	1,870
Göttingen.....	804	1,370	1,581	1,574
Freiburg.....	1,136	1,331	2,029	1,501
Tübingen.....	1,165	1,387	1,581	1,407
Strassburg.....	949	1,333	1,299	1,395
Heidelberg.....	1,028	1,359	1,655	1,371
Würzburg.....	1,347	1,283	1,322	1,295
Marburg.....	800	1,154	1,421	1,276
Münster.....	411	1,204	1,255	1,256
Gießen.....	528	1,071	1,093	1,069
Jena.....	635	816	1,024	953
Erlangen.....	1,131	982	973	942
Königsberg.....	709	925	1,018	932
Kiel.....	504	758	1,000	745
Greifswald.....	750	687	775	705
Rostock.....	420	519	540	556

Number of students pursuing the several studies at the German universities in 1894-95 and 1904-5.

Studies.	Number of students.	
	1894-95.	1904-5.
Law.....	7,380	11,777
Philology and history.....	3,083	8,322
Medicine.....	7,768	5,906
Mathematics and science.....	2,525	5,688
Evangelical theology.....	3,083	2,136
Catholic theology.....	1,404	1,678
Pharmacy.....	1,214	1,387
Agriculture.....	888	1,065
Forestry.....	413	1,024
Dentistry.....	282	596
Veterinary surgery.....	70	149
Total.....	28,105	39,718

E. THEOPHILUS LIEFELD, *Consul.*

FREIBURG, GERMANY, *December 31, 1904.*

TRADE OF JAPAN DURING THE WAR.

The following excerpt from the Kobe Chronicle, an English journal, of December 22, 1904, was transmitted to the Department by United States Vice-Consul Hunter Sharp, Kobe, Japan, under date of December 23, 1904:

Now that the year is drawing to a close, it is interesting to examine the records of trade published monthly by the finance department, with a view to learning what effect the war has had upon commerce in general. Perhaps the first impression will be one of surprise that it should apparently have had so little effect upon the bulk of trade.

For the eleven months of the year ending in November exports totaled 290,000,000 yen against 263,000,000 (\$145,000,000 against \$131,500,000) for the same period of 1903, while imports amount to 332,750,000 yen (\$166,375,000) this year against 289,500,000 (\$144,750,000) last year. It will be seen, therefore, that while there has been an increase in exports of 27,000,000 yen (\$13,500,000), imports have increased by 43,000,000 yen (\$21,500,000), or, to put it in another way, while the excess of imports over exports for the eleven months of 1903 was 26,500,000 yen (\$13,250,000), the excess this year reached the high figure of 42,500,000 yen (\$21,250,000), which has only been exceeded on four occasions in the last thirty years.

How far this heavy import is due to the requirements of the Government is not quite clear. The item "Others" in Group III shows a remarkable increase from 13,500,000 to 32,500,000 yen (\$6,750,000 to \$16,250,000), and may possibly include either imports of coal or a certain proportion of war material. Presuming this is the case, it would more than account for the difference between the excess of imports last year and this, if other items in the accounts are fairly equal. As a matter of fact, however, there is a decided increase in the figures of the first group, classified as raw material used for production, and an increase in this section is of great importance as suggesting that the war is not at present damaging manufacturing industries. Thus imports of cotton show an advance from 58,500,000 yen (\$29,250,000) for the eleven months of 1903 to 63,500,000 yen (\$31,750,000) this year; machinery and engines an advance of 1,000,000 yen (\$500,000), and locomotives an advance of 500,000 yen (\$250,000). In the two latter cases, however, the war probably accounts for the increase, the machinery and locomotives being required for the railways in Korea and Manchuria, as, despite military requirements, the import of rails shows an actual falling off of 1,000,000 yen (\$500,000), declining from 2,500,000 yen (\$1,250,000) to 1,500,000 yen (\$750,000), thus indicating that for the time being railway extension and the improvement of communications in Japan have stopped. If the military demand be eliminated, the import of iron and its correlatives would seem to be about stationary. The import of wool has more than doubled, from 4,250,000 to 9,000,000 yen (from \$2,125,000 to \$4,500,000), for the reason possibly of avoiding prospective heavy duties as well as for army requirements. A marked feature is the heavy decrease in the import of indigo, which has declined from 4,000,000 to 1,750,000 yen (\$2,000,000 to \$875,000), a phenomenon which has no bearing on the war, but indicates the hold that the artificial German product has obtained over the natural product in India.

As regards luxuries, abstinence from which was so strongly preached at the beginning of the war, it is curious to note that the group of articles so classified remains practically stationary, there being a decrease of 1,000,000 yen (\$500,000) in a total import of 50,000,000 yen (\$25,000,000). Of this sum, however, miscellaneous articles account for 7,000,000 yen (\$3,500,000), the other items, with the exception of sugar, which is practically unaltered, showing heavy decreases—mousselines from a total of 3,750,000 to 1,500,000 yen (from \$1,875,000 to \$750,000), woollen cloths from 2,500,000 to 1,250,000 yen (from \$1,250,000 to \$625,000), shirtings and cotton prints from 6,500,000 to 3,000,000 yen (from \$3,250,000 to \$1,500,000), cotton satins and velvets from 1,750,000 to 750,000 yen (from \$875,000

to \$375,000). The advice to the Japanese to refrain from luxuries appears, therefore, to have had its effect.

In the last group the import of rice is greater by some 5,000,000 yen (\$2,500,000), while, notwithstanding imports for the army, flour shows a slight falling off. Of the specified articles the increase in the import of kerosene is greatest, which is accounted for by tariff considerations, while the heaviest falling off is in the import of bean cake, from a value of 10,500,000 to 3,500,000 yen (from \$5,250,000 to \$1,750,000), due to the closing of Niuchwang and the disturbing conditions in Manchuria.

Turning to exports, the most striking feature is the heavy increase in the exports of silk, which in one form or another swells the export returns to the extent of 26,000,000 yen (\$13,000,000), or almost exactly the amount by which the exports show an increase—that is, from 263,000,000 yen (\$131,500,000) in 1903 to 290,000,000 yen (\$145,000,000) in 1904. Notwithstanding the heavy imports of raw cotton, the export of yarns shows a falling off from 30,000,000 to 26,500,000 yen (from \$15,000,000 to \$13,250,000), due to disturbance in the north China market, though there is an increase of 750,000 yen (\$375,000) in the export of cotton tissues. Returns of cotton-spinning companies, however, show that there has been a larger consumption of yarns in Japan, making up for the loss of the foreign trade; and it may be that cotton has to some extent taken the place of native silk and imported mouselines, velvets, etc. Porcelain and cigarettes show increases—in the latter case before the monopoly went into operation, exports now tending to fall off—but both tea and camphor show a decrease, the former to the extent of 750,000 yen (\$375,000) and the latter of about 500,000 yen (\$250,000). In coal there is a decline from 17,750,000 to 13,500,000 yen (from \$8,875,000 to \$6,750,000) due in large measure, apparently, to the falling off in shipments for Russian use.

Looking at the returns as a whole, it must be granted that the war has caused less embarrassment to Japan's foreign trade than might have been expected. Decreases in one line of goods have, on the whole, been made up by increases in others, and the balance of trade at the end of the year shows that conditions are fairly normal. One reason undoubtedly is that, for the greater part of the time, Japan has held command of the sea, which has given confidence to merchants and thus encouraged trade. If the returns are analyzed and special items eliminated, it will be seen that Japan's foreign trade this year is practically stationary. The increase which each year has hitherto shown is not maintained, but even so, if it can not be said that the returns show evidence of advance, it is equally true that they show no sign of material retrogression. It is the export of specie, amounting to more than 100,000,000 yen (\$50,000,000), which is the most disquieting sign, but this must be treated separately.

CONSOLIDATION OF GERMAN BANKS.

(From United States Consul Diederich, Bremen, Germany.)

It may be of interest to note the great changes which have taken place in the banking business of Germany during the last few years, owing to the concentration of a large number of the leading financial institutions. The characteristic feature is that the capital stock of

the leading banks is increasing steadily, the capital of many smaller banks being put under their control for business purposes, all banks so united or consolidated participating in the entire business of the combine, thus enlarging their fields of operation. For this reason, there exist to-day only a few provincial banks that are doing business independently of others, while the most belong to one or other of the groups hereinafter mentioned.

The first group, under the leadership of the Deutsche Bank, Berlin, consists of the following banks:

Capital stock of group of fourteen banks under the leadership of the Deutsche Bank, Berlin, Germany.

Depository.	Capital stock.	Depository.	Capital stock.
Deutsche Bank, Berlin.....	\$42,840,000	Westfälischer Bankverein, Münster.....	\$1,666,000
Rheinische Kreditbank, Mannheim.....	15,708,000	Süddeutsche Bank in Mannheim.....	1,425,000
Bergisch-Märkische Bank, Elberfeld.....	14,280,000	Mannheimer Bank.....	238,000
Essener Kreditanstalt in Essen.....	9,520,000	Siegener Bank für Handel und Gewerbe.....	952,000
Schlesischer Bankverein, Breslau.....	7,140,000	Emder Bank in Emden.....	238,000
Hannoversche Bank, Hanover.....	5,355,000	Oldenburgische Spar und Leihbank.....	952,000
Duisburg-Ruhrorter Bank, Duisburg.....	2,856,000	Total.....	104,948,000
Essener Bankverein.....	1,775,000		

To obtain a correct idea of the amount of capital at the disposal of this combine, it must be borne in mind that a large part of the capital stock mentioned is owned mutually. Nevertheless, if the reserve funds are counted in it is safe to say that this group of banks controls over \$119,000,000:

The second group of banks so combined is headed by the Dresdener Bank, and is composed of the following establishments:

Capital stock of eight banks under the leadership of the Dresdener Bank, Dresden, Germany.

Depository.	Capital stock.	Depository.	Capital stock.
Dresdener Bank.....	\$38,080,000	Mülheimer Bank in Mülheim a. d. Ruhr.....	\$1,825,000
A. Schaaffhausenscher Bankverein.....	29,750,000	Märkische Bank in Bochum.....	1,190,000
Rheinische Bank in Mülheim a. d. Ruhr.....	2,380,000	Oberschlesische Bank in Beuthen.....	476,000
Mittelrheinische Bank in Coblenz.....	2,140,000	Total.....	77,051,000
Westphälisch-Lippische Vereinsbank.....	1,190,000		

A third group consists of the following banks:

Capital stock of four banks under the leadership of the Darmstädter Bank, Darmstadt, Germany.

Depository.	Capital stock.	Depository.	Capital stock.
Darmstädter Bank.....	\$36,652,000	Nordwestdeutsche Bank.....	\$1,190,000
Breslauer Diskontobank.....	5,950,000	Total.....	45,696,000
Ostbank für Handel und Gewerbe.....	1,904,000		

Still another group, the fourth, is composed as follows:

Capital stock of four banks under the leadership of the Diskontogesellschaft.

Depository.	Capital stock.	Depository.	Capital stock.
Diskontogesellschaft.....	\$40,460,000	Barmen Bankverein.....	\$10,971,320
Norddeutsche Bank.....	11,900,000		
Allgemeine Deutsche Kreditanstalt.	17,850,000	Total	81,181,320

From a list before me, which does not claim completeness, it is shown that during the last three years seventeen banks (stock companies) with a capital of \$36,769,096 were absorbed by the process of centralization; and it is expected that other large concerns, among them the Berliner Bank, with a capital stock of \$10,000,000, will join the number in the near future.

HENRY W. DIEDERICH, *Consul.*

BREMEN, GERMANY, *January 2, 1905.*

GLASS-WORKERS' STRIKE IN BELGIUM.

(From United States Consul Roosevelt, Brussels, Belgium.)

In February, 1904, manufacturers of glass in the district of Charleroi combined for defense and for the reduction of wages. Conditions were placarded in their respective works May 1, 1904, and became fully operative September 1.

Workers in cold glass (cutters, packers, box makers, and helpers) decided to boycott certain manufacturers, and on May 1, 1904, a partial strike was declared in the window-glass industry, which, except at five works, became complete on September 1. All negotiations toward a settlement of the difficulty have been fruitless. The one insurmountable obstacle to an amicable settlement of the strike and resumption of work on the conditions placarded May 1 now seems to be—at least so it is asserted—the rivalry between the head of the union of workers in hot glass (blowers, flatteners, stretchers, and helpers) and the head of the union of cold-glass workers. The strike affects about 10,000 men.

Great suffering exists among the workmen, and many families are reduced to extreme destitution. The union of warehousemen is very energetic in supporting the strikers, and has organized a relief fund for the distribution of food and fuel. Since January 1, 1905, each member of the union receives per month 30 francs (\$5.79), 50 kilos (110 pounds) of potatoes, 4 kilos (8.8 pounds) of ham, and 2 kilos (4.4 pounds) of coffee. These are not gratuitous supplies, each workman signing an agreement to pay for them as soon as he shall resume work.

Owing to an apparent tendency to go back to work, it was recently proposed to hold a secret vote on ending or continuing the strike. The secret ballot was expected to end it, but the vote was found to be in favor of the continuation of the strike.

GEO. W. ROOSEVELT, *Consul*.

BRUSSELS, BELGIUM, *January 9, 1905.*

SULPHUR BEDS OF SICILY AND LOUISIANA.

Under date of November 30, 1904, United States Consul Alexander Heingartner, Catania, Italy, transmits a clipping from the Financial News of London, covering a report made at the eighth annual meeting of the Anglo-Sicilian Sulphur Company, which controls the Sicilian sulphur output, wherein the chairman, Mr. William Thomas Brand, made the following reference to the sulphur beds of Louisiana:

Sicily has been until now virtually the sulphur producer of the world and there has been practically no serious competition from other sources, but we are threatened this year with some further competition from certain mines in Louisiana, where it is claimed that a considerable quantity of sulphur can be produced. Whether these mines will produce all that is claimed for them remains to be seen, and we are, of course, meanwhile carefully watching their position.

The board has made inquiries as to what the Louisiana mines were doing, but it was difficult to obtain information, as the owners had taken every precaution to prevent inquirers from finding out. They had ascertained, however, that in 1902-3 the mines produced about 8,000 tons of sulphur, and there were no figures published as to what they produced in 1903-4. The directors were naturally anxious to ascertain all they could on the subject.

TRANSVAAL COAL.

(From United States Consul Hunt, Tamatave, Madagascar.)

A shipping company has recently been testing Transvaal coal with a view to examine the conditions under which it would be possible for steamships to burn it. The results of the tests of twenty-four hours' duration are thus given:

(1) Transvaal coal alone: Consumption, 16 tons 1 hundredweight; number of miles run, 216; steam pressure, 25.3 pounds; cinders, 3 tons 17 hundredweight; draft in the flue, 0.3 inch; revolutions per minute, 66.7; results pronounced excellent.

(2) With a mixture in equal parts of Transvaal and Cardiff coal: Fuel consumed, 14 tons 12 hundredweight; miles covered, 238; mean steam pressure, 33 pounds; cinders, 3 tons; draft in the flue, 0.3 inch; revolutions, 66.7; results excellent.

(3) With a mixture of two parts Transvaal and one part Cardiff the results are also said to be excellent.

(4) With a mixture in equal parts of Transvaal with Lens coal the results are pronounced very good.

It should be pointed out that when Transvaal coal is used alone the furnaces should be very slightly charged with very equal distribution as well as frequent stirring below the grate, and the cinders often raked out. This, it is true, entails more work on the fireman, but that can be minimized by removing from each furnace one of the grate bars at the bottom of the hearth. In any case, these tests seem to have proved that Transvaal coal can be profitably employed by steamers calling on the east coast of Africa.

WM. H. HUNT, *Consul*.

TAMATAVE, MADAGASCAR, *November 25, 1904.*

DAMASCUS-MECCA RAILROAD.

(From United States Consul Ravndal, Beirut, Syria.)

By the completion of the Damascus-Mecca Railroad as far as Ma'an, Beirut has secured access by rail to the entire Trans-Jordan country and to Arabia.

September 1, 1904, the anniversary of the Sultan's ascension to the throne, the formal opening of the Mecca Railroad as far as Ma'an, a somewhat important city not far from the Gulf of Akaba, which is a branch of the Red Sea, was celebrated in the presence of a distinguished mission, under the leadership of Turkhan Pacha, which had been constituted by the Sultan for the purpose. The mission included altogether about fifty officials of high standing in Ottoman civil and military life, besides correspondents of Turkish newspapers and also the representative in Constantinople of the Berliner Tageblatt.

Halil Pacha, governor-general of the vilayet of Beirut, surrounded by all local officialdom, received the mission with signal honors August 23. After four days of rest and recreation in Beirut the mission proceeded by special train to Damascus. At Araya station they were met by the governor-general of Lebanon, Mouzaffer Pacha, who accompanied the delegation to the boundary line of his jurisdiction. At Rayak station the mission found awaiting them Nazim Pacha, governor-general of the vilayet of Damascus; Hakki Pacha, general in command of the Fifth Army Corps; Kiazim Pacha, director-general of the Mecca Railroad, and other high dignitaries from Damascus, among them the superintendent of the annual pilgrimages to Mecca, Abdul Rahman Pacha, and the Algerian emir, Ali Pacha. The entire party reached Damascus at 4.30 o'clock p. m., and was acclaimed by immense and enthusiastic crowds surrounding the depot, which had been pro-

fusely decorated. There was military display galore, and a reception in the serai, opened by the mufti of Damascus with prayer for the Sultan. In the evening, at the home of the governor-general, a banquet was tendered the mission, during which speeches were made by Nazim Pacha and Turkhan Pacha in praise and glorification of the Sultan who had undertaken the construction of the Mecca Railroad which would connect the chief centers of Islam, Mecca, Medina, and Damascus, and play an important part in the future of Mohammedanism. August 30, in four special trains, the mission and their guests proceeded to Ma'an, where already a deputation from Medina, consisting of the mufti and several ulemas of the city which holds the Prophet's remains, had arrived to take part in the festivities. On the morning of September 1, in the presence of thousands of spectators, largely Bedouins, the Ma'an section of the Mecca Railroad was formally opened. Turkhan Pacha delivered an oration in which, on behalf of the Sultan, he thanked Nazim Pacha, Kiazim Pacha, Hakki Pacha and others for their efforts in behalf of the road. Medals struck in honor of the occasion were distributed, showing on one side the glorious Tughra (Ottoman coat of arms) and a locomotive, and on the other side the inscription: "In commemoration of the opening of the Ma'an section of the Hamidie-Hedjaz Railroad, 1322." Other speeches were made and the Bedouins contributed to the gaiety and solemnity of the occasion by exhibitions of their horsemanship. Fireworks in the evening terminated the festivities, and the mission returned to Beirut. A visit was made on the *Ismir* to Haifa, and the mission inspected the Haifa-Mzerib Railroad as far as the Jordan bridge.

It strikes me as worth while recording, as I have done, some incidents of this inauguration ceremony, because it means considerable to western Asia to have the Sultan taking such a deep and conspicuous interest in railroad building.

Competent persons claim that the Mecca Railroad, as far as it goes, is well constructed. It was built under the personal superintendence of Mr. Heinrich Meissner, a German engineer. American rails are largely used. The Turks plan to make Haifa, not Beirut, the port of their railway, and intend to build harbor works at Haifa. Whether the foreign trade of Damascus will be diverted from Beirut to Haifa, the future only can tell. But the probabilities are that Beirut will continue as Damascus' seaport, inasmuch as the distance is considerably less and because the French harbor and railway officials at Beirut probably will know how to compete successfully with their Turkish rivals at Haifa. Such competition is bound to promote the development of the resources of the country. Among other things it will eventually bring down to more reasonable levels the harbor dues charged by the French Port Company at Beirut, and thus encourage the commerce and carrying trade of this city.

THE MECCA RAILROAD AND PILGRIMAGES.

In order to understand the commercial importance of the Mecca Railroad, it is necessary to know something of the annual pilgrimages to Mecca. While the railroad is being built for a religious purpose, sight is not lost of its strategical value. Turkey, in a general way, claims sovereignty over Arabia, but actually exercises it only over the provinces of Hedjaz and Yemen, on the western coast, and over a somewhat limited area to the northeast, adjoining the Persian Gulf, a projection of Turkey's Mesopotamian dominions.

In this connection the following Reuter telegrams may be of interest:

CONSTANTINOPLE, *October 27, 1904*.—The Cherif Avn ul Refik has signified to the Sublime Porte his opposition to the continuation of the railway to Mecca. At most he agrees to the line being prolonged to Medina. On the other hand, the line will not be extended beyond Ma'an in the meantime. From this last point a branch is to be constructed to join the Akaba Gulf. If this plan be carried out Turkey will possess an open door to Egypt. England is not likely to accept such a solution without reluctance, and will probably seek for compensation in Yemen or in the Hedjaz.

LONDON, *November 8, 1904*.—The Porte is delaying the ratification of the work of the Aden hinterland delimitation commission, and has also complained to Great Britain that the nomination by the Indian government of an agent at Koweyt is an infringement of the Anglo-Turkish arrangement for the status quo. Turkey has sent four Syrian battalions into the Nejd country in order to assist Ibn Saud, independent ruler of interior Arabia, in his struggle with Ibn Shalud.

Unquestioned possession of Mecca and Medina is more or less a *sine qua non* with the Ottoman Government, as it gives to the master of the holy cities, perhaps, his best title to the caliphate, or headship of Islam. By virtue of the Mecca Railroad the Fifth Army Corps at Damascus can be dispatched to the Hedjaz in a short time, and is also in position in an emergency to hasten to the support of the Turkish regiments in Yemen, which more or less constantly are at war with the powerful tribes of the hinterland. Petty rulers, calling themselves sultans, ameers, or imams, have for centuries divided the interior of Arabia among them, the most important being the sultans of Oman and the great Nejd kingdom. The territory of the potentate of Nejd stretches from southeast of the Dead Sea to Riad and the Wahabi country. Its capital is Hail.

Pilgrimages are as old as the hills. It would be vain to speculate whether the secular or the spiritual element originally prevailed; most probably each had its portion. The Mecca pilgrimage is essentially religious, incidentally an affair of commerce. Last year about 200,000 pilgrims went to Mecca, representing a Moslem population of about 200,000,000 in Turkey, Arabia, Egypt, Sudan, Zanzibar, Barbary States, South Africa, Afghanistan, Persia, Baluchistan, India, the East Indian and Philippine Islands, China, and Russia in Asia. The gov-

ernments of Turkey and Egypt pay toll (blackmail) to the Bedouin tribes through whose territory the pilgrimages pass, but the system is not entirely effective. Last year some 20 per cent of the pilgrims were reported ill-treated, wounded, or killed, and it is estimated that during the pilgrimage season travelers to Mecca were robbed of more than \$1,000,000. Caravans of 3,000 to 5,000 camels are no rare occurrences, but the most of the pilgrims come by sea to Jedda, proceeding from there under military escort to Mecca, and thence to Medina by the Yambo route. It is presumed that the Mecca Railroad will prove a strong weapon against the Bedouins, whose privilege it is, independently or in concert with corrupt officials, to harass and pillage the faithful who yearly struggle across miles of scorching desert to obey the dictates of their religion.

Slowly, but surely, the country through which the Mecca Railroad is passing will be opened to the influences of modern civilization. The world at large is interested, because Mecca is a breeding place par excellence for cholera, plague, and other dangerous epidemics which spread to Europe and even to America. Beirut is also interested, for reasons of her own. Even now this city is doing some business with Arabia. Moslem merchants in Beirut have branch houses in Yambo, Jedda, and Hodeida. The sherif of Mecca keeps an agent in Beirut besides his representative in Alexandria. Every year traders from Beirut accompany the Damascus pilgrimage, selling cotton goods, glassware, cutlery, etc., and bringing back coffee, gum arabic, tombac, skins, and other Arabian products. After each annual pilgrimage, which leaves the natives of Mecca and Medina and their respective seaports of Jedda and Yambo more or less rich with the fresh spoils of the traffic, numbers of pilgrims come to Beirut to make purchases. Ma'an is likely to develop rapidly into quite a city. Wealthy Damascenes are now buying land there for speculative purposes.

With the advent of the Mecca Railroad and the Khartum-Suakin Railroad, which expects to supply the Arabian markets with cereals from the Sudan, and by the Abyssinian and Bagdad railroads, the Red Sea and the Persian Gulf ports will receive much impetus. Arabia, tremendous areas of which are as yet less known to the world than the most obscure portion of the Dark Continent, will in consequence gradually yield up its secrets and become a factor in international commercial relations. Since the death of Mohammed Ibn Rashid, by some called the greatest Arab of the nineteenth century (in 1886 he took Riad and became ruler of all central Arabia), the condition of Shammar and Nejd, including the city of Hail, has become as unknown to the outside world as is to-day the obscurest spot in Tibet.

G. BIE RAVNDEL, *Consul*.

BEIRUT, SYRIA, *November 12, 1904.*

MUNICIPAL ECONOMY AT BERLIN.

(From United States Consul-General Mason, Berlin, Germany.)

The renown of Berlin as perhaps the cleanest, most progressive, and one of the best administered large cities in the world has for years past attracted the attention of municipal officers and boards of city improvement in the United States, and has inspired frequent inquiries as to the cost and various details of administration in specified departments of the city government. With a view of answering concisely a large part of these special inquiries, the following report, giving the statistics of cost and accomplishment in several leading departments, is respectfully submitted:

PAVEMENTS.

On March 31, 1904, there were in use within the municipal limits of Berlin, exclusive of suburbs, 6,213,711 square meters (7,425,384 square yards) of paved streets, which have an approximate length of about 300 miles. The pavements are divided, according to material and method of construction, into three general categories, as follows: Asphalt, 2,256,442 square meters (2,696,448 square yards); wood, 90,638 square meters (108,312 square yards), and stone 3,886,631 square meters (4,644,524 square yards), in which latter group are included 881 square meters (1,246 square yards) of cement macadam and 149 square meters (178 square yards) of small stone blocks on béton foundation, laid for experimental purposes. All these pavements are cleaned frequently, a large part of them daily, by a carefully organized corps of 1,834 men and boys, which can be increased by taking on extra men in case of snow or other temporary stress of duty. During 1904 the wages of the regular street-cleaning force amounted to 2,158,427 marks (\$513,706), besides 64,275 marks (\$15,297) paid for extra help, making the total labor cost of street cleaning for the year 2,222,692 marks (\$529,000). During the year there were collected and hauled away 156,692 wagon loads of ordinary street dirt and 47,289 loads of snow, the latter being generally dumped into the river and canals within the city limits.

WATER SUPPLY.

The report for 1904 shows that the volume of water pumped up by the city waterworks was 15,250,059,260 gallons, of which 56,418,700 cubic meters (14,894,536,800 gallons), an average of 157,539 cubic meters (41,590,396 gallons) per day, were used by the people of Berlin. The maximum consumption per day for each inhabitant was 110 liters (29.05 gallons) and the minimum daily consumption was 53 liters (14 gallons), the mean daily average for the year being a little more than 81 liters (21.39 gallons) for each inhabitant. The water

supply is derived from the river Spree and a small lake called the Müggelsee, which is in effect only a wide, deep part of the river channel. It is filtered by a large and admirably managed plant located at Friedrichshagen, and is an exceptionally pure and wholesome supply for a large city.

SEWER AND SEWAGE FARM SYSTEM.

Berlin has a scientific and highly successful system of sewers, by which the sewage of the city, instead of being discharged into the river and channels, is collected and pumped through pipes to seven "rieselfelder," or farms, located in various directions on the sandy plain that surrounds the city, where it is used for irrigating and fertilizing the naturally thin and rather unproductive soil. These seven farms contain an aggregate of 13,250 hectares (32,740 acres), and cost as follows: For the land, 27,670,127 marks (\$6,585,490); for drainage, grading, etc., 17,484,688 marks (\$4,161,343), and for buildings, equipment, etc., 4,552,571 marks (\$1,083,511), a total of \$11,830,357. Upon these seven farms the sewers of Berlin discharged, during the fiscal year 1903, 83,112,150 cubic meters (21,941,607,600 gallons) of liquid sewage, being a daily average of 8.32 cubic meters, or 2,196 gallons from each of the 59,473 grundstücke or buildings on separate lots which constitute the city. For the first time since the sewage farms were established they paid in 1904 all expenses of administration and maintenance and yielded a net surplus of 384,751 marks (\$91,750), which was turned into the city treasury. This result was due mainly to the fact that during the long, severe drought of last summer the rieselfelder were pushed to their full capacity in growing grass and vegetables, which, in the dearth of ordinary supplies, were sold on the spot at famine prices.

GAS PRODUCTION AND CONSUMPTION.

During the fiscal year 1903-4 there was produced in Berlin 191,709,000 cubic meters (6,770,395,044 cubic feet) of illuminating gas, of which 170,746,297 cubic meters (6,030,176,224 cubic feet) were used by private consumers, 12,863,571 cubic meters (454,289,873 cubic feet) for street lighting, and the remainder at the various municipal buildings and institutions. The cost of gas to private consumers is 12½ pfennige, or 3½ cents per cubic meter, equal to about 87 cents per 1,000 cubic feet, and this price is now uniform whether the gas be used as fuel or for illuminating purposes.

The lighting of streets and public parks, squares, etc., employs 30,912 gas lamps—of which 1,083 are supplied by the English Continental Gas Company and 29,829 by the Municipal Gas Works—besides 611 electric arc lamps, 118 incandescent electric, 394 petroleum, and 9 alcohol incandescent lamps, a total of 32,050 lights of all the foregoing classes.

FIRE ALARMS.

In 1903 there were 12,603 cases of accidental conflagration in Berlin. That they were mostly unimportant is shown by the fact that in only 1,923 cases the danger was thought sufficient to justify sounding the alarm and calling out any portion of the fire department. The solid, judicious construction of modern buildings, the enforced use of iron and steel beams, fire-proof stairways, and ceilings, and the limited use of wood in construction generally result in confining a fire to the story and often to the room in which it originates. As the statistics show, 10,680 of the fires that broke out in 1903, or five-sixths of the whole number, were extinguished by the use of water and chemical extinguishers without calling in the aid of the firemen. Of the 1,923 cases in which the alarm was sounded, 104 are classed as "large fires," 176 as "medium," 1,558 as "small," and 85 were nothing more than the burning out of soot in foul chimneys. Of the total number of fires in 1903, 11,315 were in dwellings, 696 in stores and business offices, and 308 in factories and workshops.

MUNICIPAL SLAUGHTERHOUSE.

The local regulations provide for a rigid inspection of all animals which are to be slaughtered for food, and require that they shall be killed and dressed at the municipal slaughterhouse under the direction and inspection of specially qualified officials. Not only the living animal, but its flesh, when dressed, is inspected and stamped before it may be legally offered for sale. During 1903 there were killed and prepared for market at the municipal slaughterhouse in Berlin 153,426 cattle, 156,984 calves, 413,388 sheep, 895,206 swine, and 11,818 horses. The annual meat consumption ranges from 162 to 180 pounds per capita for the entire population of Berlin.

INTERURBAN PASSENGER TRAFFIC.

There were carried during the fiscal year 1903-4 by the elevated steam railway (Stadtbahn), 36,083,553 passengers; by the circular electric railway (Ringbahn) 23,240,173, and by all the other electric surface and underground lines, 397,578,962, a grand total of 456,902,488 passengers. To these are to be added 85,878,795 passengers carried by the several omnibus lines, which, notwithstanding the steady extension and improvement of the electrical tramway system, continue to handle an increasing traffic from year to year. The whole number of accidents during the year was 2,146, of which 31 were fatal, which in respect to cause and responsibility were described as follows: Elevated and underground lines, 26 injured, none fatally; surface electric tramways, 1,985 injured, 26 killed; omnibuses, 134 wounded, 5 killed, a rather disastrous record, but perhaps not more so than would be

expected when the vast total number of passengers carried and the crowded condition of many narrow Berlin streets are considered.

FRANK H. MASON, *Consul-General*.

BERLIN, GERMANY, *January 18, 1905.*

COTTON-SEED OIL AND OLEAGINOUS SEEDS IN MARSEILLE.

(*From United States Consul-General Skinner, Marseille, France.*)

Indications point to a resumption of shipments of American cotton-seed oil in considerable quantities to Marseille. The movement has not yet taken actual form, but consumers generally are manifesting a much deeper interest in American trade development than in any of the facts bearing upon the prices and stocks of oleaginous seeds, the plenitude of which has kept out American oil, except in limited quantities, since 1901. Marseille enters the year 1905 with only 120 tons of oil-making material on hand, and only 350 tons of American cotton-seed oil in stock. Small transactions and scanty offerings are reported from all the primary seed markets, while American oil prices become more favorable to buyers, as a consequence of the large cotton crop. The local oil manufacturer is compelled to meet short seed crops and rising prices, although his product must compete with American oil, which is being produced under precisely opposite conditions. While it is extremely dangerous to offer general assertions in trade matters, it may be said that the European manufacturers are never able to dispose of their product profitably when the range of prices is under 60 francs per 100 kilos (\$11.58 per 220 pounds). At times the price of cotton-seed oil is considerably below 50 francs (\$9.65 per 220 pounds).

The following statistics explain the situation very clearly:

Imports of cotton-seed oil at Marseille, France, 1895 to 1904.

Year.	Amer- ican.	British.	Other.	Total.	Stock at close of year.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
1895.....	10,072	2,268	144	12,484	2,498
1896.....	20,334	4,077	50	24,461	2,350
1897.....	42,027	6,806	192	49,024	4,555
1898.....	51,008	1,791	167	52,961	7,506
1899.....	47,546	1,463	229	49,238	3,000
1900.....	32,788	1,672	126	34,581	840
1901.....	33,604	604	114	34,322	1,800
1902.....	13,712	1,080	50	14,792	540
1903.....	13,478	1,874	456	15,808	1,110
1904.....	13,394	1,323	296	15,003	350

Prices of cotton-seed oil at Marseille, France, 1895 to 1904.

Year.	American oil per 100 kilos (220.46 pounds).	British oil per 100 kilos (220.46 pounds).	Year.	American oil per 100 kilos (220.46 pounds).	British oil per 100 kilos (220.46 pounds).
1895.....	\$9.29	\$8.96	1900.....	\$11.35	\$11.06
1896.....	8.56	8.30	1901.....	11.16	10.55
1897.....	8.08	7.78	1902.....	12.81	12.40
1898.....	7.98	7.77	1903.....	12.54	11.73
1899.....	8.62	8.29	1904.....	9.96	9.48

Arrivals of oleaginous seeds at Marseille, France, 1900 to 1904.

Kind.	1900.	1901.	1902.	1903.	1904.
	100 kilos. ^a	100 kilos.	100 kilos.	100 kilos.	100 kilos.
Sesame (Levant).....	47,690	58,860	42,960	23,330	36,070
Sesame (India and Africa).....	615,020	565,020	685,850	1,209,060	845,370
Arachides:					
Decorticated.....	238,470	611,360	1,076,560	857,170	1,009,710
In the shell.....	816,560	748,660	641,320	952,960	800,490
Linseed:					
Russia and the Danube.....	130	2,300			
Levant.....	9,770	3,780	2,530	1,620	4,020
India, Algeria, etc.....	100,960	98,870	112,210	169,200	142,400
Colza.....	63,160	78,230	60,070	28,600	21,620
Rape.....	2,690	2,700	160	8,200	
Cotton.....	131,260	231,320	223,940	149,720	129,510
Poppy.....	89,830	35,160	39,760	51,010	61,560
Castor.....	159,420	259,310	262,140	215,670	144,070
Various.....	5,210	12,730	28,960	38,890	30,640
Copra.....	1,087,340	852,690	873,480	1,090,710	855,680
Palm.....	79,810	118,720	58,430	56,130	77,170
Various concrete seeds.....	17,720	133,100	59,550	94,390	174,240
Total.....	3,364,580	3,842,730	4,157,900	4,940,400	4,332,550

^a 100 kilograms=220.46 pounds=one-tenth of a metric ton.

The grades of American oil imported in 1904 were as follows: Prime winter comestible, 47,036 barrels; prime summer yellow, 21,476 barrels; prime summer white, 6,180 barrels; total, 74,692 barrels.

ROBERT P. SKINNER, *Consul-General*.MARSEILLE, FRANCE, *January 10, 1905.*

WINE AND CIDER PRODUCTION OF FRANCE IN 1904.

(From United States Consul Covert, Lyon, France.)

WINE PRODUCTION.

The Official Journal states that the wine product of France for the year 1904 is estimated at 66,000,000 hectoliters (1,743,522,000 gallons), which is 33,500,000 hectoliters (884,969,500 gallons) more than for 1903, and 23,500,000 hectoliters (620,799,500 gallons) more than the average yield of the last ten years. If we add to this 6,500,000 hectoliters (171,710,500 gallons) for Algeria and 160,000 hectoliters (4,226,720 gallons) for Corsica we reach a grand total of 72,000,000 hectoliters (1,902,024,000 gallons), the largest yield since 1875.

Of this yield 56,000,000 hectoliters (1,479,352,000 gallons) is of a quality of less than 11 degrees; 6,500,000 (171,710,500 gallons) are fully 11 degrees; and nearly 4,000,000 (105,668,000 gallons) are above 11 degrees. The quality of all brands of French wine this year is of a high standard. What they call "Les grands crus" (the best brands) in the Burgundy, Bordeaux, Cote Rotie, and Hermitage districts are considered equal if not superior to those of the best years of the country. The value of the year's product is estimated at 1,250,000,000 francs (\$241,250,000).

CIDER PRODUCTION.

The yield of cider in 1904 is the largest ever known in the country. It is 35,000,000 hectoliters (924,595,000 gallons), which is double the average product for the last ten years.

JOHN C. COVERT, *Consul*.

LYON, FRANCE, *December 30, 1904.*

AMERICAN CATALOGUES FOR READING ROOMS IN COLOMBIA.

(From United States Consul-General Snyder, Bogotá, Colombia.)

In the Daily Consular Reports for July 15, 1904 (No. 2004), the following note from this consulate-general was printed:

CATALOGUES WANTED FOR READING ROOM OF CONSULATE AT BOGOTÁ, COLOMBIA.

This consulate-general has recently received a great many requests for catalogues of various kinds of American goods, such as watches, knives, shoes, rifles, shotguns, revolvers, and all kinds of sporting arms and ammunition, engineering goods, and drawing instruments. I have established a public reading room here, which is open to the public from 2 to 4 o'clock each afternoon except Saturday and Sunday. If American manufacturers and merchants will send me their different catalogues they will be placed on file in this room, and it will be seen that the greatest good possible results therefrom.

In re the foregoing report, I have received the following letter from Popayán, an important city in the State of Cauca:

POPAYÁN, *October 24, 1904.*

Consul-General of the United States in Bogotá.

MY DEAR SIR: I have the honor to place at your service the agency of publications and commercial information which for many years I have had established in this city. I have learned from a newspaper of Bogotá that you have an office of information in which can be found data in reference to the articles, prices, etc., of the United States.

In my desire to increase the commercial relations between this region of Colombia and the Great Republic, permit me to ask you, if

it is not too difficult, to send to my agency announcements, catalogues, lists of prices, etc., of as great a number as is possible of the houses of your country, in order that they may be placed at the disposition of the public here and perhaps lead to securing a great number of orders.

Knowing your interest in the commerce of both countries, I do not doubt that you will give attention to my wishes.

CLODOMIRO PAZ.

I have informed Mr. Paz that I would be glad to forward him duplicate catalogues, from time to time, and would put his proposition before our manufacturers through the Consular Reports.

I feel greatly encouraged at the way the reading room has been received here, but it can have influence and beneficial results only for Bogotá and its immediate vicinity, and I am convinced that the results would be far greater if the same scheme were adopted by all our consuls in Colombia. I am in hopes other private merchants in Colombia may desire to adopt the measures expressed by Mr. Paz. I have to-day written the consular agents under my jurisdiction to know if it is not feasible for them to adopt the same plan.

The only fault to be found is that so far, strange to say, the number and variety of catalogues received are not all that could be wished for.

ALBAN G. SNYDER, *Consul-General.*

BOGOTÁ, COLOMBIA, *November 16, 1904.*

POPULATION OF LOURENÇO MARQUEZ.

(*From United States Consul Hollis, Lourenço Marquez, Portuguese East Africa.*)

I am now able to give more detailed information in regard to the census of April, 1904, the reports of which have just been published.

The population of the town of Lourenço Marquez numbers 9,849, divided as follows: Single males, 3,899; single females, 667; married males, 2,068; married females, 463; widowers, 103; widows, 41; living according to East African customs, principally blacks and yellows, and classed as unknown: Males, 2,331; females, 277; total, 9,849. Married males constitute over one-fifth of the total population, and less than 25 per cent of them are accompanied by their wives.

When this census was taken 422 inhabitants had resided here not longer than one month, 1,404 not longer than six months, 1,226 not longer than one year, 1,173 not longer than two years, 540 not longer than three years, 412 not longer than four years, and 380 not longer than five years. Only 158 had been here for ten years, 82 for fifteen years, and 56 for twenty years. Nearly all these old residents are Portuguese subjects, born in the province (Mozambique).

Outside of the town limits the district of Lourenço Marquez is divided into five additional subdistricts, which have a total population

of 101,154, divided as follows: Whites—Portuguese, 434; English, 106; other nationalities, 110; total whites, 650. Other than whites—Aboriginal blacks, 99,698; Asiatics, 701; half-castes, 105; total, 101,154.

W. STANLEY HOLLIS, *Consul*.

LOURENÇO MARQUEZ, PORTUGUESE EAST AFRICA, *December 10, 1904*.

EXPORT OF LAMBS FROM VICTORIA, AUSTRALIA.

(*From United States Consul-General Bray, Melbourne, Australia.*)

The export of lambs in a frozen condition is now one of the most promising industries of the State of Victoria. For two years past exporters have been clamoring for lambs, not only for London, but for Africa, the Philippine Islands, the East, and Mediterranean ports. The prices offered have tempted farmers within easy reach of railways to breed lambs especially for export. Even pastoralists are devoting more care to selection of breeds to meet export meat purposes as well as wool requirements.

The Shropshire breed for export is increasing year by year, but so far none of the pure stock has been exported, being reserved for breeding purposes. Shropshire lambs are considered suitable and profitable for export, their carcasses being plump and fleshy, with thick legs and shoulders, well covered with fat, which, however, is not laid on in excess. They are fairly hardy and exceedingly prolific, fattening rapidly and maturing early. If, however, a slump should occur in the export trade a number of lambs would be left unsold, which, when adults, would be unprofitable as wool producers, their wool being coarse and of a low market value. They are, however, ready fatteners, and would be marketable in the following year as mutton, either for export or for local trade requirements. It is generally admitted that the cross between the Shropshire ram and half-bred Lincoln ewe is the best lamb for meat purposes, and would sell on an average for about 15s. to £1 (\$3.65 to \$4.86). If the export trade goes on uninterruptedly the Shropshire, as a meat animal, will be profitable, and it will pay producers to breed for export purposes.

This season prices have run about as follows: Merino-Lincoln cross, 14s. (\$3.40); Merino-Shropshire cross, 16s. (\$3.89); Comebacks, 13s. (\$3.16); Shropshires (only a small quantity offering), £1 (\$4.86). The number of lambs exported during the month of November, 1904, exceeds that of any month in any previous year.

JOHN P. BRAY, *Consul-General*.

MELBOURNE, AUSTRALIA, *December 10, 1904*.

AUSTRIAN MISSION TO ABYSSINIA.

(From United States Consul-General Rublee, Vienna, Austria.)

The Austro-Hungarian Government has dispatched the Government cruiser *Panther* to Abyssinia with a party of officials on board who are sent by the Emperor to establish closer commercial relations with the Government of Abyssinia. The *Panther* sailed January 15, 1905, from Pola, and the persons designated to proceed to the capital of Abyssinia as representatives of the Austrian Emperor included, besides the captain of the *Panther* and other naval officers, a diplomatic agent and a consular official. It is the purpose of the mission to land at Jibuti toward the end of January, and to proceed under the escort of a marine guard of honor by land to Adis Abeba. An autograph letter from Emperor Francis Joseph will be presented to King Menelik, besides various decorations and presents. The higher officials in Abyssinia are also to receive decorations from the Emperor.

This official commercial expedition has been under consideration for nearly a year past and has been most carefully organized. It is believed that there is an excellent opening for Austrian export trade, one Austrian firm having already established business connections with Abyssinia and opened branch houses in Jibuti, Harar, and Adis Abeba. The Austrian Lloyd Steamship Company has recently started a regular steamship service to the Abyssinian coast which offers a favorable means of communication and greatly facilitates the extension of Austrian commerce to that part of the world. It is proposed that the present mission shall negotiate a commercial treaty with King Menelik. An Austro-Hungarian consulate is to be established at Adis Abeba, and steps are to be taken to bring about other commercial relations between the two countries.

W. A. RUBLEE, *Consul-General*.

VIENNA, AUSTRIA, *January 18, 1905.*

HINTS FOR EXPORTERS TO PERSIA.

(From United States Commercial Agent Harris, Elbenstock, Germany.)

The *Deutsche Industrie Zeitung*, No. 47, contains an interesting report of the German consul-general in St. Petersburg in regard to the markets for German manufactured goods in Persia. The following is a translation:

Sugar.—In packing goods for export to Persia manufacturers should always take into consideration the fact that the highways are

very bad. Sugar, for example, should be especially well packed, as it is easily dissolvable, and can not be packed in sacks for the reason that it will not withstand the wear and tear of caravan transportation. The amount to be shipped should be divided into small quantities and packed in straw.

Dyed cotton goods.—The sale of various colored cotton goods in Persia always depends upon the prevailing fashion. Each province usually has its own styles, and it will always pay a manufacturer to inform himself in this respect before entering the field. The Persian merchant usually is in search of something cheap. Thus far English cotton goods seem to have the preference over the products of all other countries, for the reason that they are of better quality for the price asked and present a finer appearance.

Woolen goods.—There is a good demand for woolen goods, which must be cheap and the quality of such character that they will not easily bleach in the sun. The colors desired are gray, black, and brown.

Persia unquestionably offers a good market for the following articles: Matches, underwear, shoes, ready-made clothing, hats, candles, parasols, umbrellas, iron, steel, metal goods, furniture, writing paper, envelopes, porcelain, glass, wagons, automobiles, bicycles, mirrors, and rubber goods.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *January 9, 1905.*

QUICK TELEGRAPHY.

(From United States Consul Liefeld, Freiburg, Germany.)

On October 31, 1904, I sent a report concerning a new high-speed telegraph instrument which was being tested by the British postal officials between London and Edinburgh. I now send the following description of another system of quick telegraphy, wherein photography plays an important rôle, with which telegraphic signs have been transmitted at the rate of 2,000 per minute, and which has been successfully tried between Königsberg and Berlin, a distance of 500 miles. This report is the text of an article in the London Standard (from its Berlin correspondent) of December 29, 1904. It is as follows:

NEW SYSTEM OF QUICK TELEGRAPHY.

Through the courtesy of Messrs. Siemens and Halske I have been enabled to inspect their new rapid type-printing telegraph apparatus, by means of which telegraphic signs can be transmitted at the rate of 2,000 signs per minute.

The great advantages claimed for this new apparatus are that, unlike methods of a similar nature, only one wire is required for transmitting and receiving messages; the message sent is received in plain printed characters, and the mechanism is much less complicated. The system

has been tried with great success over the Government wire between Königsberg and Berlin, a distance of over 500 miles. The messages sent are written on a typewriter which, instead of printing letters, perforates holes in a paper ribbon. This ribbon is then inserted into a transmitter, which sends the perforated dispatch with incredible rapidity to the receiver at its destination. A disk with transparent letters revolves in front of the perforated ribbon at the receiving station, and, by means of a small electric lamp, each perforation or rather letter on which the electric light shines through the perforations is photographed on a ribbon of sensitive paper. A special paper has been invented for photographing the messages, so that the developing and the fixing of the photographed letters only occupies nine seconds. In case of a lengthy dispatch several typewriters are employed in perforating the messages. It is proposed to set up perforation writers with ordinary typewriter keyboards in various offices, so that messages can be handed in ready for transmission. In dispatching messages through various stations it is only necessary to use the perforated ribbon received on the fresh transmitter. A great saving of time is thus effected. The only objection that can be raised to the new apparatus is that it transmits messages so rapidly that its use is necessarily confined to central stations, where a superabundance of telegrams are dispatched.

E. THEOPHILUS LIEFELD, *Consul*.

FREIBURG, GERMANY, *December 31, 1904.*

TRADE OF THE UNITED KINGDOM IN 1904.

The following review of British trade in 1904 and previous years, with comparisons of British, German, and American trade, appeared in the *London Standard* of January 8, and was transmitted by United States Consul McNally, of Liege, Belgium, under date of January 10, 1905. The values throughout the report were reduced to American money in the Bureau of Statistics, Department of Commerce and Labor.

A RECORD YEAR.

The board of trade returns for December, issued on Saturday, give the particulars of the British exports and imports for the year 1904, and are of quite unusual interest and importance. They show that 1904 was a record year for British trade, as for the first time in our commercial history the exports amounted to \$1,463,930,295—an advance of \$48,751,569 on 1903. This figure is not quite the world's record, as it was surpassed in 1901, when the United States showed exports totaling \$1,479,416,000.

The following are the exports of British and Irish produce for various important years: 1900 (previous record year), \$1,416,515,000; 1901, \$1,362,620,000; 1902, \$1,377,219,500; 1903, \$1,415,178,200; 1904 (new record), \$1,463,930,295.

TWENTY YEARS' PROGRESS.

The following figures give the averages for British, German, and American exports for the five years 1880-1884, and for the five years 1900-1904, so as to show twenty years' expansion:

Average exports of the United Kingdom, Germany, and United States for the five-year periods 1880-1884 and 1900-1904.

Year.	United Kingdom.	Germany.	United States.
1880-1884, average	\$1,138,761,000	\$754,307,500	\$302,972,500
1900-1904, average	1,406,418,500	a1,158,227,000	b1,406,418,500
Gain in twenty years	267,657,000	403,919,500	603,446,000

^aAbout.

^bAccording to the official figures of the Bureau of Statistics, Department of Commerce and Labor, the average annual domestic exports from the United States, 1900-1904, amounted to \$1,421,550,515.

It will be seen that notwithstanding the great British advance in 1904, protected States are advancing their exports much faster.

An examination of the figures shows that the expansion in British exports in 1904 is due entirely to the rise in the price of cotton, as the result of the cotton famine. We paid ten millions sterling (\$48,665,000) more for the raw cotton which we imported, and sold our manufactured cotton for ten millions more.

BRITISH, GERMAN, AND AMERICAN MANUFACTURED EXPORTS.

The following figures show the British and foreign manufactured exports for certain important years:

Manufactured exports of the United Kingdom, Germany, and the United States in 1872, 1880, 1903, and 1904.

Year.	United Kingdom.	Germany.	United States.
1872	\$1,133,894,500		\$72,997,500
1880	1,085,229,500	\$403,919,500	102,196,500
1903	1,138,761,000	725,108,500	437,965,000
1904	1,187,426,000	a861,370,500	a418,652,500

^aAbout.

Thus 1904 is the best year on record for the British export of manufactures, but even so the increase on 1880 or 1872 is exceedingly small, and Germany is coming up fast.

The following table shows the exports in certain important years for the four great groups of industries—iron and steel, cotton, woolen, and machinery:

Exports of iron and steel, cotton, woolen, and machinery manufactures from the United Kingdom in 1872, 1900, 1903, and 1904.

Year.	Iron and steel. ^a	Cotton.	Woolen.	Machinery.
1872 ^b	\$180,060,500	\$389,320,000	\$184,927,000	\$38,932,000
1900	155,728,000	340,655,000	107,063,000	92,463,000
1903 ^c	147,454,950	358,174,400	121,662,500	97,731,000
1904	136,262,000	406,299,350	131,395,500	102,196,500

^aThe figures for the record year in iron and steel manufactures, 1873, have been substituted for those of 1872.

^b1872 was the best year for woolen manufactures and the next best for cotton, 1904 establishing a new record for the latter.

^c1903 was the best year for machinery manufactures prior to 1904, when the largest exports recorded were made.

The table shows, comparing 1904 with 1903—

In iron and steel, a fall of \$11,192,950 in the exports for 1904; in cotton manufactures, a rise of \$50,124,950 in the exports for 1904; in woolen manufactures, a rise of \$10,219,650 in the exports for 1904; in machinery, a rise of \$4,866,500 in the exports for 1904.

The imports for 1904 reached the record figure of \$2,683,203,673, which has never before been equaled. The increase is \$42,635,510, as compared with 1903.

BALANCE SHEET OF THE UNITED KINGDOM.

The United Kingdom's balance sheet for the year 1904 may thus be stated in conclusion:

To credit of the United Kingdom:

Exports	\$1, 463, 930, 295
Goods imported and then exported	342, 217, 141
Total	1, 806, 147, 436

Expenditures of the United Kingdom:

Imports	2, 683, 203, 673
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Subtracting exports from imports the United Kingdom is to the bad by	877, 056, 237
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This \$877,056,237 is the excess of imports over exports.

Part of this large deficit is doubtless covered by the profits made by British shipping, and by the interest on our foreign investments. But even when allowance has been made for these items, there yet remains a gap between exports and imports which is difficult to explain, unless we suppose that the United Kingdom is living on her capital or is borrowing from foreign nations. No other great commercial nation is in a similar position.

HINTS TO EXPORTERS OF IRON GOODS AND MACHINERY.

(From *Das Handels Museum, Vienna, Austria, October 13, 1904.*)

ODESSA, RUSSIA.

In Odessa there is a tendency, as is shown by orders for oil presses, etc., to prefer German machinery to that of English make. This is owing partly to the more modern construction of the German machines. In 1901 a medical faculty was established at the University of Odessa, which considerably increased the demand for surgical instruments. German firms, handling German goods exclusively, satisfy the greater part of this demand. The import of machinery at Odessa, exclusive of agricultural implements, in 1901, 1902, and 1903, respectively, amounted to 1,194 tons, 1,165 tons, and 1,266 tons. Machine parts to the amount of 1,050 tons, 698 tons, and 913 tons were imported during the same years. Imports of tools and instruments, excepting agricultural apparatus, amounted to 854 tons, 859 tons, and 973 tons in 1901, 1902, and 1903.

CHRISTIANIA, NORWAY.

Christiania, Norway, is an industrial center, with shipyards and workshops which use large amounts of iron machinery and iron goods. The imports were as follows in 1903: Raw iron, 9,799 tons; steel, 1,686 tons; bar iron, 16,503 tons; locomotives, valued at \$101,563; and other machinery and parts of machinery, exclusive of agricultural machinery, valued at \$681,310.

CRETE.

In Crete the iron business is entirely in the hands of German and Belgian firms; their wares are of about the same quality as the British goods, but at lower prices. Frequent visits to Cretan towns by commercial travelers, guaranteeing three to six months' credit, delivery f. o. b. Canea, Candia, and Retimo, as well as insuring the cargo and assuming risk of transportation by the exporter, are all important points in securing Cretan trade.

YAFSA, PALESTINE.

Petroleum motors have been employed a great deal for irrigation purposes during the last three years at Yafa. Up to the end of 1903 160 such machines had been sold. The Germans lead in the trade, followed by the English.

DAMASCUS, SYRIA.

There were erected in 1903 in Damascus eight small grain mills, using petroleum as motive power. Two, costing \$973 each, came from England and three from the United States. The mills average 21 horsepower, and their daily output is 660 pounds. They should meet with success. The only disadvantage is the high price of petroleum.

ARABIA.

At Jiddah, the harbor of Mecca, nails are imported mostly from Trieste, partly from Constantinople, in cases containing 100 pounds net, and are sold at \$3.58 per case. Reliable statistical figures on the extent of these imports are not available since goods in transit or coming via other Turkish harbors are not designated accurately enough in the customs statistics. Two years ago the attempts to introduce enameled ware at Jiddah failed and the invoices sent thither were auctioned off with loss. Since that time the natives have begun to show a preference for this class of goods, although the chances for a good business with it in the future are yet slim. Certain articles of this kind, such as spoons with figured edges, rice spoons, dishes, etc., are in some demand.

ZANZIBAR.

In Zanzibar the imports of hardware, raw iron, small iron ware, enameled ware, brass and copper goods amounted to \$78,871 in 1903, against \$72,021 in 1902; the average for the five years 1898 to 1902 was \$113,466. Imports of machinery in 1903 were \$15,669; 1902, \$37,802; the average of the five years 1898 to 1902 was \$24,068. Machinery comes mostly from Great Britain and Germany.

CHINDE, AFRICA.

Among the wares playing an important rôle in the imports of Chinde, Africa, are knives of all sorts, which are furnished mostly by Great Britain, and pay a 3 per cent ad valorem duty.

MADAGASCAR.

Three-legged pots, at 28 cents per gallon capacity, and iron plates, at \$2.64 per dozen, for cooking rice, are salable in Madagascar. At present they are being supplied by Great Britain. The use of sewing machines is increasing, especially in the central provinces. The demand has been supplied heretofore with German machines, which were sold in Antananarivo for \$9.30 each; from 1,500 to 2,000 machines are imported yearly. There are a number of fibers in Madagascar which, owing to lack of machinery, are worked by hand. Machinery for this purpose would probably find a market. Enameled ironware to the value of \$48,250 is imported yearly, about three-fourths of which comes from France. The natives have a special fondness for enameled spoons.

AUSTRALIA.

Bicycles are salable in the Australian federation; they pay 20 per cent ad valorem duty. The demand for motor cycles is stationary. The Australian women do not use wheels as much as formerly. In consequence of the development of the mining industry, the imports of machinery for mines and reducing works have doubled in the last three years. The United States has supplied the largest share, the American product being better made and cheaper than the British machinery.

CUBA.

The best knives are imported into Cuba from England, although the competition of the United States is noticeable. In medium grades the United States dominates, while Germany and France furnish the cheapest sorts. In barbed wire imports the United States is first and Germany second. In nails the United States is first and England second. In fine wares England leads, since it offers better credit than the United States, four to six months, as compared with thirty to sixty days. American locks and tin roofing are in great demand.

PERU.

According to an English consular report a railroad will be built to open up the eastern part of Peru. As soon as the preliminaries are arranged the Government will be prepared to take up the matter of orders for rails and rolling stock.

PARAGUAY.

In Paraguay the cheaper grade of machetes, costing 60 cents per dozen, are supplied almost exclusively by Germany. The better grades, furnished by other countries, will cost up to \$3.80 per dozen. A French commercial traveler a short time ago received some good orders for the better grades.

HORSES, CATTLE, AND MEAT IN FRANCE.

(From *Annales du Commerce Extérieur*, 1904.)

Imports of horses into France have risen from 17,561 head, worth 12,184,000 francs (\$2,351,512) in 1902, to 19,022 head, valued at 12,928,000 francs (\$2,495,104) in 1903. There were increases in the imports of horses, mares, and colts. Algeria remains the principal source of supply for stallions; geldings and mares come principally from Austria-Hungary, Belgium, and England.

While the imports have increased, equine exports have decreased, namely, 19,089 head, valued at 20,331,000 francs (\$3,923,883) in 1903, against 23,227 head, valued at 24,103,000 francs (\$4,651,879) in 1902.

Imports of cattle, sheep, and hogs into France in 1902 and 1903.

Animals.	Number.		Value.	
	1902.	1903.	1902.	1903.
Oxen.....	30,898	28,740	\$1,645,518	\$1,777,723
Cows.....	4,991	5,022	136,790	229,406
Heifers.....	2,204	2,542	93,219	94,355
Calves.....	5,509	5,057	71,796	68,301
Sheep.....	1,508,101	1,623,999	7,414,095	8,638,487
Hogs.....	4,018	8,860	74,691	178,911
Total.....	1,555,216	1,674,220	9,498,109	10,979,384

Nearly all the beef cattle and nine-tenths of the sheep are from Algeria and Tunis. The imports of sheep from Austria-Hungary have decreased considerably. France exported oxen to the number of 14,783 in 1903, against 16,725 in 1902; cows, 8,495, against 9,830, and hogs, 26,210, against 36,704, in the same years.

The receipts of cattle, sheep, and swine at the market of Villette, Paris, in 1903, were 247,059 oxen, 169,523 calves, 48,365 cows, 1,894,539 sheep, and 513,916 hogs, against 247,317 oxen, 176,242 calves, 56,185 cows, 2,382,781 sheep, and 503,091 hogs in 1902.

In the aggregate the entries of cattle show a slight diminution.

The mean price of beef remained stationary during the first six months of 1903, but in the second half year there was an appreciable rise as a result of the abundance of straw and fodder, leading the growers to keep over more animals and therefore to limit shipments to market. A rise is also shown in the price of mutton and pork.

The imports into France of meat, salted or otherwise preserved, have fallen from 25,132,690 pounds, valued at \$4,541,290, in 1902, to 24,008,336 pounds, worth \$4,371,450, in 1903. The principal changes were in the amounts of imports of fresh beef, salt pork, and game, which in 1903 amounted to 2,639,374, 9,553,295, 3,676,562 pounds, respectively, against 2,881,221 pounds of fresh beef, 9,760,881 pounds of salt pork, and 4,269,691 pounds of game in 1902.

Among the countries supplying France are: Switzerland, fresh beef; Belgium, fresh mutton, pork, and meat extracts; England, Germany, Belgium, and the United States, salt pork; United States and Italy, sausages; Italy, Austria-Hungary, and Germany, game. According to the reports of the octroi, 424,477,088 pounds of meat were delivered in Paris in 1903, and 430,603,033 pounds in 1902.

The imports of fats or greases rose from 35,757,870 pounds, worth \$2,539,880, in 1902, to 57,395,578 pounds, worth \$3,865,790, in 1903. The principal sources of supply were, as before, the United States, Uruguay, Argentina, England, and China. Exports suffered a decrease from 85,340,926 pounds, worth \$6,518,382, in 1902 to 80,204,160 pounds, valued at \$5,374,278, in 1903.

WIRELESS TELEGRAMS TO SHIPS AT SEA.

Under date of January 2, 1905, United States Consul E. Theophilus Liefeld, of Freiburg, Germany, reports that according to the Paris edition of the New York Herald of December 31, 1904, the postmaster-general of Great Britain has made provisional arrangements, which in effect can be called a "working partnership," with the Marconi International Marine Communication Company for the acceptance and prepayment at telegraph offices in the United Kingdom of telegrams for transmission from wireless telegraph stations on the coast to ships at sea. It is also announced that the arrangement will come into operation January 1, 1905, and that the charge will be 6½d. (13 cents) a word, with a minimum of 6s. 6d. (\$1.60), for each telegram.

The Westminster Gazette says: "This is a red-letter day in the history of wireless telegraphy. What only a short time ago seemed a mere scientific dream has now become an everyday occurrence. No longer will doctors be able to advise a sea voyage so as to get their patients clear away from the worry of business; the wireless telegram has for the future always to be reckoned with."

The Pall Mall Gazette says: "On Sunday anyone in England who has friends at sea on a transatlantic liner may go to a telegraph office and wire to them New Year's greetings at a cost of 6s. 6d. (\$1.60)."

"It is not much to pay for a pleasant surprise of the kind. On Monday and the succeeding days of the year it may be high enough to limit the messages mainly to matters of business urgency, and these are not so numerous that the post-office can be blamed for letting two years go by in negotiations before concluding its arrangement with the Marconi Company. We congratulate the company upon the success of its pertinacity. One effect of official firmness has undoubtedly been to bring about improvements in the method of wireless transmission and extend the range of distance over which aerial communication can take place with moving ships. Nor does the rate of 6½d. (13 cents) a word, with a 6s. 6d. (\$1.60) minimum, compare disappointingly with the cost of ocean cabling."

The Globe says: "If nothing else had helped to secure this result, the successful use which has been made of the system in the course of the Far Eastern war would have demonstrated at once its practicability and utility. The advantages of the new facility, which may truly be called a revolution in telegraphy, are apparent at a glance. The imagination boggles, in fact, at the effort to realize the possible developments which may come about before the century is much older."

PROGRESS IN HAIFA, SYRIA.*(From United States Consul Rarnaal, Beirut, Syria.)***TRADE WITH THE UNITED STATES.**

In consequence of insufficient rainfall and intense heat, the grain and olive crops during last year fell far beneath the Haifa standard, and business generally was poor. Exports to the United States from this district consisted chiefly of soap (\$3,803), refined olive oil (\$1,572), and sundries (cotton lace, carpets, red Carmel wine, broiled pease, olives, liquors) to the amount of \$1,400, making in all \$6,775 out of a total from Haifa to all countries of \$626,700. From the United States Haifa imported carriages and saddlery (\$1,890), dry goods (\$860), agricultural machinery and implements (\$1,350), petroleum engines (\$2,600), and railway material (\$60,000), making in all \$66,700 out of a total of imports from all countries of \$299,600. American trade is growing in the Haifa district.

THE TURKISH HEDJAZ RAILWAY.

The last year, which in various respects has been a memorable one in the annals of Turkey in Asia, witnessed the construction of the first railway bridge across the Jordan River.

Our consular agent at Haifa, Dr. Gottlieb Schumacher, reports as follows :

The Turkish Hedjaz Railway line has been carried on as far as the Yarmuk Valley across the Jordan, a distance of about 60 miles from Haifa. The line has been opened for public traffic as far as the Jordan bridge, Jisr el Mejania, 48½ miles, and is so far doing a good business. A fine stone bridge has been constructed over the Jordan: an iron girder will be laid this month over the adjacent Yarmuk River, and the ravines El Bireh, Esby, and Khansireh in the Jordan Valley have been arched by stone bridges of solid construction. The line continues from the Jordan Valley up the steep and rocky gorge of the Yarmuk. Thousands of Italian and native workmen are busy tunneling the mountain ridges, blasting the basalt rocks, and building bridges of 60 to 100 feet span in order to complete this section by June 1, 1905, and thus connect the Mediterranean Sea harbor of Haifa with the main Mecca or Hedjaz line near Deraah in Hauran. A great supply of rails from the United States and sleepers are piled up near Haifa, sufficient to complete the last section of 40 miles in the Yarmuk ravine. Most of the work has been given to Austrian, Italian, German, and native contractors, who, in spite of the malarial fevers prevailing in the Yarmuk gorge, pretend to do very well, very high prices being paid for the work. The line is now nearly under the complete control of Turkish engineers and military officers. The German engineers of the Haifa section have all left, and only the chief engineer and two others on the main Mecca line are still employed. It is beyond doubt that Haifa will greatly increase as a city and improve as a commercial place as soon as the railway connection is accomplished and Damascus is reached.

HARBOR WORKS AT HAIFA.

The harbor works have not been started at Haifa, but plans have been submitted and approved, and it is the firm intention of the Turkish Government to begin building a protected harbor immediately after the completion of the Yarmuk section of the railroad.

CONSULAR REPRESENTATION AT HAIFA.

In view of the promising commercial future of Haifa, all nations except the United States have raised the ranks of their consular agents to paid vice-consuls or consuls.

THE AMERICAN-GERMAN COLONY.

The condition of the American-German colony at Haifa is still improving, and the members are now engaged in purchasing a new tract of land for the purpose of widening their estates for further colonization.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *December 26, 1904.*

AMERICAN APPLES IN ENGLAND.

(*From United States Consul Swalm, Southampton, England.*)

The reports from local markets as to the condition of the pack of American apples put on the English market are exceedingly creditable to the packers. It is seldom that the standard varieties popular in the English market have turned out so much in favor and to the taste of the buyers, the fruit being of that firm mold and solid condition generally required in this market.

In 1903 the enormous amount of 11,000,000 bushels of American and Canadian apples was sold in the English market, and from present appearances that record will be nearly, if not quite, equaled from the crop of 1904.

There are several fine varieties of English apples produced in a small way in local orchards which it would be well to test in the more temperate zones of the United States, for they are a very superior fruit in flavor, are long keepers, of fine size, and of most inviting color. However, quoting an English authority, "The American fruit grower knows how to attract the purchaser by uniformity in size and quality in a way which English growers have hardly begun to learn. And so, in the big towns, the English product hardly finds one purchaser at 2 pence (4 cents) a pound, where the American fruit finds ten at double the price."

There has been very little change in the market methods touching apples in a local way in the past quarter of a century. I have observed these methods personally in 1878 and in the past two years, and so they continue.

ALBERT W. SWALM, *Consul*.

SOUTHAMPTON, ENGLAND, *January 25, 1905.*

PUBLIC SCHOOL COURSES FOR STUTTERING CHILDREN.

(From United States Consul-General Rublee, Vienna, Austria.)

An interesting addition to the course of instruction in the public schools of Vienna is to be made this winter by providing classes in four districts to overcome the defects in speech of children who stutter. The length of the course is to be five weeks, and instruction is to be given during two hours of each week day.

The number of pupils in each class is limited to eight, as a class can not be conducted successfully with a larger number. The children are to withdraw from other school attendance, as it is essential that they devote themselves exclusively to the course for the cure of stuttering. In order to be admitted to the classes the children must present medical certificates that they are free from any organic disease that would interfere with the purpose of the instruction.

The cooperation of the parents is especially important to the success of the cure. During the period of the special instruction it is necessary that the children have a separate room at home where they can practice the exercises given them without any disturbance whatsoever. The parents must undertake to have the children practice their exercises at home for at least four hours daily, and during the first two weeks not to allow them to speak at all, except to practice the exercises prescribed by the course of instruction. Keeping silent is of such importance that the success of the course depends upon this requirement being strictly observed. Parents are particularly advised never to cast any doubt upon the effectiveness of the course or of the teachers. It is well known that stutterers lack self-confidence, and this must be taken in account in the treatment. The children should be encouraged by calling attention to progress that has been made, for stutterers are extremely susceptible to praise. Parents, however, should be careful to make no experiments and to make no tests.

At the end of the five weeks' course the instructor brings each pupil back to his regular school and indicates to his teacher what has been accomplished, besides giving advice concerning his further instruction. The teacher is requested to try to encourage and make permanent the new habits acquired. Children who have taken the special course in stuttering are examined afterwards each month in order to determine what permanent results have been obtained.

W. A. RUBLEE, *Consul-General.*

VIENNA, AUSTRIA, *January 14, 1905.*

NEW RAILROAD IN BADEN, GERMANY.

(From United States Consul Brittain, Kehl, Germany.)

Verig & Co., of Berlin, have just completed a railway leading into the Black Forest. The road leaves the Offenburg-Konstanz line at the village of Biberach and terminates at Oberhamersbach, a distance of only 6½ miles. The cost of the line, including rolling stock and improvements, was \$297,500, or \$45,769 per mile. The government of Baden granted a concession for ninety years, at the end of which time the line with improvements becomes the property of the government, which also reserves the right to purchase the road at the expiration of twenty-five years. In that event it would be obliged to pay twenty-five times the net receipts of the road for the five years preceding the sale. By way of inducements to construct the line the government donated \$1,142.46 per mile, while the towns through which the road passes donated the right of way and gave cash donations besides.

The road was constructed by Italian laborers, who received 82 cents per day, the stone masons being paid but \$1.42 per day. There are twenty sawmills and two large potteries along the line. The fare charged is: Second class 20 cents, round trip, 29 cents; third class 13 cents, round trip, 20 cents.

JOSEPH I. BRITTAİN, *Consul*.

KEHL, GERMANY, *January 9, 1905.*

PIECEWORK WAGES IN BRITISH SHOE FACTORIES.

(From United States Consul Muhn, Nottingham, England.)

A report from this consulate, May 9, 1904, referred to the fact that a piecework arrangement was being considered by representatives of employers and employees engaged in shoe manufacturing at Leicester. It was explained that this was the outcome of charges that the employees' union had purposely restricted production under the existing scale of day wages, seriously hampering the Leicester shoemaking trade, especially in competition with the United States.

The work of the joint committee is at last finished. The new arrangement nominally went into effect July 18, 1904, and several factories substituted it for the existing wage scale, but some minor uncertainties and disagreements still existed, which have just been cleared away. The "piecework statement" covers 16 printed pages, and is so technical and detailed as not to be practicable for reproduction in this report. It may be said, generally, that in effect it reduces wages of slow and inefficient workers and increases those of swift and competent ones. On the whole, some factories report an increase in their wage expense, but this, they say, is counterbalanced

by advantages gained, such as enhanced output and exact knowledge of the cost of the goods produced. So far, no manufacturer has expressed dissatisfaction, and there seems to be satisfaction on the part of the workers as a whole.

The minimum wage per week under the old arrangement was 29s. (£7.06). Under the new arrangement this minimum continues unless it be shown that the workman can not earn so much, when the union is bound to issue a permit allowing the manufacturer to pay only what the worker does earn. This is occasionally found to be as low as 12s. (£2.92) a week, a gain to the manufacturer in every such instance of 17s. (£4.13) per week.

It is claimed that already the piecework system has had a very beneficial effect on the shoe trade of Leicester. It is hoped by the British manufacturers that the system may be extended to all the shoemaking centers of Great Britain, and that the country may thus be able to successfully meet the competition of foreign countries, especially the United States.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 9, 1905.*

RESTRICTIONS ON THE IMPORTS INTO AUSTRALIA OF MINERAL OILS AND SPIRITS.

(From United States Consul-General Bray, Melbourne, Australia.)

I inclose herewith copy of a proclamation issued by the customs department of Australia, declaring the restrictions under which mineral oils and spirits may be imported into the Commonwealth. Prior to the federation, each State of Australia had its own regulations regarding the importation of the oils and spirits referred to, and the proclamation, which is to take effect on and from April 1, 1905, provides that the "flashing point" of mineral oils and spirits shall be uniform for the whole Commonwealth.

PROCLAMATION OF THE AUSTRALIAN CUSTOMS DEPARTMENT.

1. No mineral oil shall be imported as kerosene unless it has a flashing point of 73 degrees Fahrenheit or over.

2. All mineral oil and all productions therefrom, and all admixtures containing mineral oil which has or have a flashing point of under 73 degrees Fahrenheit shall, for the purposes of this proclamation, be deemed to be mineral spirits.

3. No mineral spirits shall be imported unless contained in strong vessels so constructed as not to be likely to be broken in handling or to become defective or insecure while being conveyed, or to allow the mineral spirit to escape, or to be accidentally opened, and unless such vessels shall be plainly marked with the name of their contents.

"naphtha," "benzine," "benzoline," or "gasoline," or as the case may be, together with the words "highly inflammable."

4. In this proclamation the words "flashing point" mean the degree of temperature at which the mineral oil or mineral spirits give off an inflammable vapor upon being tested by the "Abel-Pensky" test apparatus, or by such other method as the minister from time to time directs.

JOHN P. BRAY, *Consul-General.*

MELBOURNE, VICTORIA, AUSTRALIA, *December 3, 1904.*

COMMERCIAL DEPRESSION IN TRIPOLI, SYRIA.

(*From United States Consular Agent Harris, Tripoli, Syria.*)

The epidemic of cholera lasted until the lemon crop was too ripe to ship, occasioning considerable loss. The rainfall was less than usual, causing a short crop of barley and other cereals. The olives failed entirely, so there will be no olive oil exported in 1904. The silk crop was an average one.

Our hope for the rapid increase of imports from the United States has not been realized. In the past fault has been found with excessive freight charges and time consumed in transit from the United States. At present there can be no complaint on that score, for the Italian line has solved the problem by a low freight tariff and quick dispatch. It has a bimonthly service to Syrian ports. One shipment this summer was delivered at this port from New York in twenty-seven days. One olive press and one corn sheller have been imported from the United States to help break up the bed-rock conservatism that has existed since the early ages.

The railroad from Hamath to Beirut has taken from this port at least two-thirds of the importing and exporting business, and as a consequence the merchants are much depressed. The direct business with foreign countries that has been increasing gradually for the past two years is in peril of being cut off entirely. The stockholders of the wagon road company from Tripoli to Hamath have been making strenuous efforts to obtain a concession to build a steam narrow-gauge line, paralleling their present road, but to the present time have been unsuccessful. It is difficult to understand how they could make such a road pay, for they have now, as in the past, ample facilities for carrying all the freight presented. Barley and wool make up the great bulk of the exports from this port, and certain foreign merchants in Beirut have gradually acquired this business. Before the Hamath-Beirut Railroad was built it was cheaper to bring barley to Tripoli on camels, and wool in wagons, but now it is cheaper and more convenient to send them direct to Beirut by railroad.

The emigration to the United States continues, and is exerting an influence on the body politic. Before it assumed such proportions, say fifteen years ago, money was difficult to get, and interest was as high as from 20 to 24 per cent; now there is an abundance of money at from 5 to 6 per cent. Business in lumber, roof and floor tiles, and, in fact, all builders' material has increased immensely, especially during the last year. Every returning emigrant is ambitious to build a large, substantial home, and prove to his neighbors that he has been successful abroad, so new buildings are erected all over the country, especially in the Lebanon districts. Twelve years ago there was only one man engaged in cashing foreign drafts; now, in Tripoli, there are ten thus engaged, and they do a prosperous business. In some individual instances the sums are so large that the recipients are glad to have these bankers keep the money on deposit, without interest, until called for.

IRA HARRIS, *Consular Agent.*

TRIPOLI, SYRIA, *December 15, 1904.*

AMERICAN LIVE STOCK IN ARGENTINA.

(From United States Minister Beaupré, Buenos Aires, Argentina.)

In the interests of American trade, and with a view to its possible bearing on the attitude of Argentina toward American live stock, I submit the following report on recent efforts to open this market to the cattle of the United States: Fourteen blooded heifers, together with 20 Poland-China and Berkshire hogs, 1 mammoth jack, 3 bulls from Ravenswood farm, Missouri, and 2 polled Durham heifers from the Miller farm near Peru, Ind., were brought to this country, and the heifers sold here September 6 at public auction. The selection, transportation, and sale of the heifers was in charge of Mr. Walter Miller, who has supplied me with the facts. The originator and responsible party in the transaction was the father of this young man. Mr. Miller, of Peru, Ind., the same man who owned the two bulls that were sent to this country last year and slaughtered by the authorities as having foot-and-mouth disease. Having previously sold some animals in this country, and undaunted by the fate of the two bulls mentioned, he determined to make one more effort to introduce fancy American stock into Argentina. To that end he sent his son here to investigate, and, upon his return, had a personal interview at Peru, Ind., with Mr. Bicknell, of the Bureau of Animal Industry of the United States Government, who had just returned from a sixteen-months' sojourn in this country. The shipment was the result of this investigation and conference.

SELECTION OF HEIFERS.

Intended, as they were, to excite the interest of Argentine breeders in American shorthorns, the greatest care in selection was imperative. Consequently, a thorough inspection and a most severe test for tuberculosis was made by officers of the Chicago division of the Bureau of Animal Industry, and the heifers were found to be in a perfectly healthy condition. The animals were put on board June 6, and did not leave the cars until their arrival at the foot of pier 9, Brooklyn. They were then led across the pier and into the after-deck of the *Bellaura*, of the Lamport and Holt Line, every foot of the ground and pier traversed from the cars to the boat, as well as the whole of that part of the boat in which they were stowed, having been carefully disinfected. The proper certificates of health had been furnished by the Department of Agriculture, and, the animals on board, the vessel put to sea on June 11.

ARRIVAL IN ARGENTINA.

Here no difficulties were experienced; rather, every courtesy and attention was extended by the authorities to Mr. Miller. At the end of the period of detention, forty days, the animals were given the test for tuberculosis and were all passed as being perfectly healthy. From the quarantine they were led in the usual way to the auction yard of Messrs. Adolfo Bullrich & Co., in the center of the city, where they were placed on exhibition and prepared for sale. They were all in good condition, went on doing well, and, with the exception of two that had been unfortunate in calving and were withdrawn, entered the ring looking excellent.

SALE.

A catalogue giving pedigrees in full, with proper references, was published. This catalogue showed the blood which they had carried for generations to be identical with or even purer than that which is so much admired by Argentine breeders in English pedigrees. The animals were advertised, as is the custom, in all the leading papers, and catalogues were mailed to all important breeders. The sale was held by Bullrich & Co. at their auction yard September 6. Unfortunately, the live-stock trade has been very dull this year, the price paid for steers being much below that of last year. Pasture in many parts of the country has been scarce, so that breeders have not purchased so liberally as they otherwise would have done, and the number of shorthorns imported has been greater than in any previous year. The effect of these conditions was seen in another sale scheduled for the same date. Of 10 bulls offered by Mr. Alexander Bruce, an English importer most favorably known in the trade, only 3 were sold. When English bulls were not wanted the outlook for American cattle was not very promising. And yet, while there was a decided

lack of interest and bids came slowly, all the heifers entered were sold, and at prices ranging from \$467 to \$1,785 American gold, in detail as follows:

Sale of blooded American heifers at Buenos Aires, Argentina, September 6, 1904.

Heifer.	Buyer.	Argentine paper.	American gold.
Lavender Daisy and calf	B. Gimenez Paz	\$4,200	\$1,785
Viscountess of Ravenswood 3d	do	1,950	828
Second Elderlawn Victoria	Juan Chapar	1,800	765
Merry Ravenswood 3d	Leonardo Pereyra	1,500	637
Viscountess of Ravenswood 6th	Juan Chapar	1,500	637
Aconite Viscountess	Juan Stent	1,400	595
Merry Ravenswood	Ramon J. Carcano	1,350	573
Village Countess	B. Gimenez Paz	1,200	510
Pansy Blossom	Juan Chapar	1,200	510
Merry Ravenswood 2d	Ramon J. Carcano	1,100	467
Viscountess of Ravenswood 5th	Juan Stent	1,100	467
Viscountess of Ravenswood 7th	Ramon J. Carcano	1,100	467
Total		19,400	8,241
Average		1,616.66	686.75

At an average price of \$1,616 paper (\$686 American gold) the animals went far below their worth and the amount the owner had expected to realize, but it would have been shortsighted policy to stop the sale, and thus give the impression that cattle from the United States were not wanted here. Consequently, all were sold.

POINTS OF CRITICISM IN HEIFERS.

Besides the lack of interest, there stood in the way of a good sale certain characteristics of the animals to which the Argentine breeder is not accustomed and which drew his criticism. They were thought to be of too light a shade of red for this warm climate, and their horns were thought to be too dark, it being forgotten that these are points that can be affected by climatic condition, and consequently can not be uniform in all zones. Then there were some who got the idea that the heifers were small, because the Argentine breeder is not accustomed to so compact or short legged an animal. The type prevailing here is a larger and coarser-boned sort, while the American heifers are the perfected beef type and "on the ground."

OBSTACLES TO SALE OF AMERICAN STOCK.

While everything was done by the owner and by the auctioneers to insure the favorable reception of this initial lot of heifers, they were the object of severe opposition from many sources and were undoubtedly more extensively criticised than any other importation of late years.

British competition.—The majority of the English importers—in fact all, with the exception of one who had long had a monopoly of the market—were not disposed to sit by and see a portion of their business

fall to the United States. They were open in their criticism, judged the animals from the British point of view, and they all had influence with a wide circle of friends.

Argentine breeders.—Perhaps the most effective opposition came from certain native breeders who are not in favor of bringing further live stock into Argentina, mistakenly thinking that the country has reached the point when it can dispense with foreign contributions, or selfishly desiring to keep the market to themselves.

Prejudice of novelty.—Then a third was the feeling or prejudice that naturally exists toward any new article, especially with regard to anything proceeding from the United States. People seemed afraid of the animals and to entertain a certain insecurity in respect of the source from which they came and the amount of dependence to be put upon their attested breeding.

American embargo on Argentine wool.—Race feeling undoubtedly contributed its share to this sense of insecurity. But these are not the most serious sources of opposition. There is among officials and individuals a certain open and widespread opposition to the introduction of American stock that has its foundation in the serious embargo put upon Argentine wool in the United States. I am thoroughly convinced that this matter of Argentine wool stands greatly in the way of better trade relations with this country.

FUTURE TRADE.

This initial lot of American heifers, of the best to be found, has been sold at a loss to the importer. It is, I am informed, the first effort since 1897 to open this market to America's best stock and, as Mr. Bicknell in his article on "Beef-cattle breeding in Argentina" in the *Breeders' Gazette*, of Chicago, for August 3 last points out, is being watched with great interest, and its results are most anxiously awaited by the shorthorn breeders. Upon it to some extent depends the immediate future of the American cattle trade with this country, and it will be asked whether or not it is advisable to make further shipments, and if there is here a market for cattle from the United States. It is encouraging, then, to know, as Mr. Miller informs me, that, in spite of so many obstacles and so much opposition, he is so thoroughly convinced of the ultimate success of his efforts as to have determined to make another even more careful and thorough experiment in the same direction. With the assistance and cooperation of the shorthorn breeders of America, he believes the prejudices of this country against American stock can be overcome, and that the breeders of this country can even be convinced of the great superiority of the American animal for beef purposes to all other animals in the world. That there will some day be a market here for American cattle is quite evident, but the market is far from being safely opened

as yet. For the coming season Mr. Miller thinks it inadvisable for anyone to venture who does not know the conditions and the dangers to be met with and who has not gained from experience a knowledge of the class and type of animal most useful here. At any rate, it is to be hoped that no one will come with the wrong class of animal and thus detract from the impression already made on the most progressive breeders of the Republic.

A. M. BEAUPRÉ, *Minister.*

BUENOS AIRES, ARGENTINA, September 20, 1904.

BUSINESS OPPORTUNITIES ABROAD.

Under dates of January 9 and 14, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, transmits the following information relative to trade opportunities in foreign countries, gleaned from German sources:

ELECTRIC PLANTS AND MACHINERY.

Dutch Indies.—I. Schontendorp, attorney at law in Batavia, Java, has obtained a concession for erecting a large electric-power station at the falls of Toentang, which is to supply the city of Saerabaya, Java, with light and power.

Italy.—Electric plants are to be erected in the cities of Bari and Taranto, Italy, which may require the purchase of instruments of precision. For further information address the "Institute Tecnico," Bari.

Spain.—Electric lighting is to be installed at the town of Plasencia.

Switzerland.—The Swiss Government has granted permission for the building of electric tramways on the following lines: Castagnola to Lugano, Menziken to Emmenbrücke, Münster to Rothenburg, Au to Berneck, Altorf to Flüelen, and a cable railroad from Interlaken to Heimwehfluh.

IRON AND STEEL AND IMPLEMENTS AND MACHINERY.

British South Africa.—The steady development of the British colonies in South Africa and the increase of population there cause a growing demand for building materials and of machinery for making brick, sewer pipes, tiles, etc. There are good prospects for the sale of implements and material required for mining, as also for electrical and plumbing purposes. Municipalities are introducing electric-lighting plants and waterworks. There is a lively demand for automobiles, pumps, tubing, barbed wire, and construction iron for buildings. During 1903 England exported to South Africa machinery to the value

of \$11,667,360. The exports of German machinery to South Africa during the same year amounted to \$1,107,396.^a

Owing to the destruction of the workshops of the South African Railway Company at Bloemfontein, a large number of machines will be required.

India.—The British East Indies in the fiscal year 1903-4 imported metals (exclusive of gold and silver) and articles manufactured of same, including rolling stock for railroads, to the value of \$53,064,396, exceeding the imports of the year 1902 by \$6,400,000. Great Britain, Germany, and Belgium are the principal countries supplying the East Indies with iron and steel ware and metallic goods in general. The United States, as the greatest producer of metals and metallic wares, should come next to England in supplying the East Indies in this line of goods.

RAILWAYS AND RAILWAY SUPPLIES.

Argentina.—Argentina is in a very prosperous condition and the national wealth is fast increasing. During 1904 the number of immigrants arriving in that country was 130,000. The receipts from customs last year show heavy gains. Numerous railroad lines and other public works are in course of construction and others are projected.

British South Africa.—Messrs. Mordey and Dawbarn, consulting engineers, 82 Victoria street, London, England, will receive proposals for furnishing steel rails and other railroad supplies for use of tramways in Johannesburg, Transvaal colony.

Norway.—The Norwegian Government has asked the legislature for a grant of 30,000,000 crowns (\$8,040,000), the bulk of which is to be expended for the construction of new railroad lines.

AFRICAN RAILROADS.

(From United States Consul Ravndal, Beirut, Syria.)

Further light was thrown recently on the Egypt-Tripoli railroad scheme, referred to in my report of May 14, 1904, published in Daily Consular Reports, July 1, 1904. Whether the realization of the project is possible within the immediate future is more than doubtful, but it is regarded as certain by many observers that sooner or later a Tangier-Cairo line will have to be constructed. Lately the London Morning Post commented upon the scheme in the following manner:

This bold plan has already formed the theme of earnest discussion among those who take large views of transcontinental communication,

^a According to the official returns of the Bureau of Statistics, Department of Commerce and Labor, the exports of American machinery to British Africa, which, in this case, means British South Africa, were as follows during the year ended June 30, 1903: Agricultural machinery, \$1,053,429; all other machinery, \$2,296,029; total, \$3,349,453.

and we believe that his highness the Khedive of Egypt, whose interest in railway development has been most beneficial, expresses warm sympathy with the proposal. It appeals to him because the new line would bring Egypt into close and direct communication with Europe by land as well as by sea. Briefly, the idea is to construct a line along the slopes of the Atlas Mountains or the Mediterranean littoral from Tangier to Cairo. One's first impression is that the scheme is almost too daring in its conception and would be too costly in its execution. But the ground has been inspected and the conditions are found to be singularly favorable. Indeed, the engineering difficulties are nowhere such as in these days need hinder a scheme which is otherwise desirable and likely to prove remunerative.

THE BEDOUIN DANGER.

Over a great part of the route there would be more to fear from the petty interference of predatory tribes than from any natural obstacles. Tracing the new route from England there would be, first, the 20 miles across the Channel, then rail through France to the south of Spain, and again a short sea journey from Gibraltar to Tangier or some other convenient spot on the coast of Africa where the new railway would begin. Its course would lie along the northern borders of Morocco, thence by way of Algeria to Tunis and Tripoli, and onward to Cairo through the Libyan Desert and the great tracts of country over which the Khedive rules. As far as the Moroccan and Algerian sections are concerned there can be no reasonable expectation of opposition from France, which would indeed welcome any sort of development likely to assist in modernizing the land over which she now holds an acknowledged protectorate. In Egypt the Khedive's good will is already assured, and all that is required is capital for the purpose. That should come quickly when it is realized how great are the traffic possibilities not only to India, China, and the antipodes, but to Egypt itself, which is steadily increasing in popularity as a resort for all who can afford to winter under brighter conditions than our own country provides.

CAPE TO CAIRO.

If a Cape to Cairo railway becomes one of the actualities of the future, the new line would make it possible to travel from London to Capetown overland except when crossing the channel and from Gibraltar to Tangier—a mere infinitesimal fraction of the whole distance. But the gain to all far eastern travelers would be immediate, and when we consider the amazing conquests of nature accomplished by the builders of the Canadian Pacific Railway and by those who conquered the Rocky Mountains on the way to San Francisco or Vancouver, we do not think it probable that a plan for linking more closely the wealthiest portions of the east and west is likely to fail for lack of means to carry it through.

KHEDIVE'S ENTERPRISE.

We have said that the Khedive displays warm sympathy with railway development. This is proved by the interest he has shown in the Mariout Railway, which is being rapidly transformed from narrow to broad gauge under his direction. But it is a small and local scheme by comparison with the Tangier-to-Cairo line, which we have the

best possible reason to believe is deeply interesting his highness and those who share his keen desire to realize to the fullest possible extent all the advantages that a delightful climate and a singularly favorable geographical position confer on Egypt. While Great Britain and France were still at variance as to their respective interests in Morocco and Egypt no proposal such as we have been able to describe was likely to obtain consideration solely on its merits. International jealousies would have blocked the way, but these are happily removed, and with their disappearance new possibilities of peaceful development have arisen which may benefit east and west substantially if they are wisely used in the interests of more rapid and convenient intercommunication.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *December 28, 1904.*

FUEL QUESTION IN CANADA.

The following article, from the Canadian Manufacturer and Industrial World, Toronto, of January 20, 1905, was transmitted by United States Consul Worman, Three Rivers, Quebec:

THE FUEL QUESTION.

The imports of fuel into Canada in the fiscal year 1904, for home consumption, were as follows:

Imports of coal, coke, and charcoal into Canada in the fiscal year 1904.

Fuel.	Great Britain.		United States.		Total.	
	Quantity.		Quantity.		Quantity.	
	Tons.	Dollars.	Tons.	Dollars.	Tons.	Dollars.
Anthracite and dust (free of duty)	13,411	51,356	2,261,607	10,409,867	2,275,018	10,461,223
Coke (free of duty)	5,873	22,440	215,177	742,683	221,050	765,123
Charcoal (duty 20 per cent.)				22,156		a 22,224
Bituminous (duty 53 cents per ton)	123,113	281,944	3,930,665	8,825,970	b 4,053,900	b 9,108,208
Bituminous dust (duty 20 per cent.)	36,241	53,442	571,800	490,681	608,041	544,123
Total	178,638	409,182	6,979,249	20,491,357	7,158,009	20,901,901

^aSixty-eight dollars' worth from other countries.

^bOne hundred and twenty-two tons, valued at \$294, from other countries than Great Britain and the United States.

The total imports free of duty were: Anthracite, 2,275,018 tons, valued at \$10,461,223; coke, 221,050 tons, valued at \$765,123; or in all, 2,496,068 tons, valued at \$11,226,346.

The total dutiable imports were: Bituminous and dust, \$9,652,231; charcoal, \$22,224; total duty collected, \$2,211,861.

Exports of Canadian coal (bituminous) in the fiscal year 1904.

Exported to—	Tons.	Value.
Great Britain	14,120	\$50,523
United States	1,382,693	3,565,910
Other countries	249,692	280,227
Total	1,646,505	4,346,660

The provinces of Nova Scotia, New Brunswick, Prince Edward Island, and Quebec find the source of their supplies of mineral fuel chiefly in Nova Scotia. This must necessarily be so because of their geographical position, and the sale of Nova Scotia coal must be restricted to those provinces and to the New England States. There are valuable coal mines also on Vancouver Island and in the Rocky Mountains of British Columbia. The demands of that province are supplied from those sources, the excess of the production going to the States of Washington, Oregon, and California. All those portions of Canada, from Montreal to the Rocky Mountains, possessing no known deposits of coal, certainly none that have been developed, have of necessity to depend for their fuel supplies upon Pennsylvania, Ohio, Indiana, Illinois, and West Virginia. The dependence of central Canada for mineral fuel is upon these neighboring American States, the requirement being in 1904 nearly 7,000,000 tons, valued at over \$20,000,000, upon which \$2,211,861 duty was paid.

The question of reciprocity in coal with the United States is a most important one. No doubt, on general principles, every important Canadian industry should receive adequate tariff protection, but the coal industries of both Nova Scotia and British Columbia are not only not benefited by the duty but are injured, and will continue to be injured by it. The duty has no beneficial effect on Nova Scotia coal consumed in the maritime provinces and Quebec, nor on British Columbia coal in that province; but because of the American duty the trade of Nova Scotia coal is handicapped in the New England States, and the sale of British Columbia coal is similarly handicapped in the American Pacific coast States. The fact that the total exports of Canadian coal in 1904 amounted to only 1,646,505 tons, valued at \$4,346,660, tells against a most important industry. It can not expand to any considerable extent at home, and must therefore remain practically as it now is unless the restriction in a most valuable foreign market is removed.

On the other hand, those sections of Canada between Montreal and the Rocky Mountains which last year required nearly 7,000,000 tons of foreign coal, valued at more than \$20,000,000, were compelled to pay more than \$2,211,000 for the privilege of importing it.

The question is, how long will the manufacturing and other industrial interests of central Canada submit to paying more than \$2,211,000 in duty upon their fuel, ostensibly for the benefit of an industry which does not require it but is rather handicapped by it.

CONCESSION OF TURKISH PETROLEUM FIELDS TO GERMANS.

(From United States Secretary of Legation Jay, Constantinople, Turkey.)

I have been informed that the "German" Anatolian Railway, which lately obtained from the imperial department of the civil list a concession for exclusive rights to the petroleum fields in the provinces of Bagdad and Mosul, has recently made over this concession to the Deutsches Bank. By the terms the bank surrenders 10 per cent of

the gross benefits to the railway company, 10 per cent being reserved for the civil list.

The Deutsches Bank has dispatched from Aleppo to-day a well-equipped scientific expedition of investigation, consisting of Cæsare Porro, a celebrated Italian expert; Doctor Kiasling, a well-known Swiss expert; ten expert technical workmen; a physician; Doctor Quandt, late commercial attaché of the German embassy at Constantinople, as representative of the bank, and an engineer of the "Internationale Bankgesellschaft," of Frankfort, who is to investigate the possibility of connecting the various oil fields by means of light railways.

The expedition is to last five months, and the Deutsches Bank has appropriated about \$100,000 to defray its expenses. I am informed that very considerable importance is attached to it in German commercial circles. It is also reported that a trust may be formed by the German companies, the "Vega" and "Steau Romania," which have petroleum concessions in Roumania, together with this Bagdad-Mosul concession of the Deutsches Bank.

PETER AUGUSTUS JAY, *Secretary of Legation.*

CONSTANTINOPLE, TURKEY, *January 17, 1905.*

Under date of January 21, 1905, Mr. Jay writes: I now learn that the department of the civil list denies that a concession has actually been accorded to the Anatolian Railway, but says that this company has merely been given a preference right to such a concession. German commercial circles, nevertheless, seem to consider this concession as being definitely granted, and statements to this effect have appeared in the leading German papers.

WOOL TRADE OF THE UNITED KINGDOM.

The following review of the wool trade in 1904 from the London Times, January 23, 1905, was forwarded by United States Consul-General H. Clay Evans, London, England:

THE WOOL TRADE.

There are several causes which will make the year 1904 stand out prominently in the history of the wool trade. The people of this country have needed to exercise economy, and clothing is usually one of the items on which this virtue is first attempted. The cotton famine of the spring and summer, robbing, as it did, the great population in Lancashire of purchasing power, crippled one of the best customers of our worsted and woollen manufacturers. Every one in the wool trade has been anticipating difficulty because of the lack of supplies toward the end of the last twelve months, brought about by

droughts in Australia, the tremendous slaughtering of sheep for the frozen-mutton trade in both New Zealand and South America, and reduced clips in the United States, at home, and other places, but, as though all these things were not sufficient to harass manufacturers in efforts to squeeze out a bare profit, other unexpected elements made what was bad much worse.

THE WAR AND THE AMERICAN SCARE.

The war between Russia and Japan led to the placing of large orders for blankets and army clothes in this country, and then came the scare of the Americans as to future supplies of raw material and extensive operations by them in all the important wool-growing centers of the world. The result was that values for low crossbred wools, many of which were being largely used to supply the ordinary trade, such as it was, were forced to a point at which it was impossible for manufacturers in such centers as Bradford to follow. What was the gain of one section of the trade, therefore, was the loss of another, and while the heavy woolen districts in this country have had no reason to complain of the war in the Far East, those engaged in the Bradford trade have been terribly handicapped of late months, and are still suffering because of the competition of those who, having special orders to deal with, had a greater margin on which to work. Nor is there any prospect of immediate relief of any substantial character. Never within the recollection of some of the oldest men in the trade has there been such a scarcity of supplies of raw material, or, to use a phrase common in the trade, rarely have we been so "close on the sheep's back," as at the present time. An illustration of this is gained not only by the high prices prevailing just now, but by the fact that in the United States consumers are contracting for their domestic clip of wool of 1905 before it has been grown. Report has it that in America about 20 per cent of the coming clip has already been contracted for. Our own people, however, have been wise enough not to lose their heads to the same extent, but it will be realized that in face of what has been taking place, their situation, with only an indifferent trade at home, is by no means free from anxiety.

RAW WOOL.

The greatest difficulty in 1904 has been with those very descriptions which the friends of the growers of merino wool affected to despise when the shortage of fine wool was made certain, and at the commencement of this review I have indicated the causes leading to the very awkward situation which has existed in this market. Together with the increased consumption there has been a falling off in the supply from New Zealand for the season ending June last of 54,000 bales. It is estimated that the River Plata season produced over 60,000 bales less than the one preceding. Our domestic clip has been estimated at over 1,000,000 pounds less, and there have been reduced quantities from other countries. With the demand to cover Japanese orders, and the speculating of the Americans, no surprise can be expressed at the bounding up of values.

There is one table to give which I am sure will prove of interest. It is one in which an attempt is made to estimate the quantity of wool

used in this country. The imports of foreign wool we know, but our own Government officials have yet to bring themselves up to the standard of some of the colonies in gathering official information respecting our domestic clip. As regards sheepskins, I have allowed at the rate of 6 pounds of wool per crossbred and 5 pounds per merino skin, and on this basis have arrived at the figures given below.

Production of home-grown wool and imports of wool and sheepskins in the United Kingdom, 1900 to 1904.

Year.	Home-grown wool production.	Foreign and colonial wool imported.	Sheepskins imported.	Total.
	Pounds.	Pounds.	Pounds.	Pounds.
1900.....	141, 146, 000	553, 154, 782	85, 197, 124	779, 407, 856
1901.....	138, 483, 000	686, 956, 308	84, 159, 984	909, 599, 292
1902.....	135, 684, 000	637, 521, 986	91, 505, 165	864, 721, 151
1903.....	133, 124, 000	599, 500, 932	100, 963, 976	833, 588, 908
1904.....	131, 963, 000	561, 706, 689	85, 595, 648	779, 265, 337

Exports of home-grown wool, foreign and colonial wool, and sheepskins from the United Kingdom, and amount retained for home consumption, 1900 to 1904.

Year.	Home-grown wool.	Foreign and colonial wool.	Sheepskins.	Total.	Retained for home consumption.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
1900.....	24, 928, 800	195, 363, 561	42, 989, 903	263, 282, 264	516, 215, 592
1901.....	20, 205, 000	293, 062, 982	42, 689, 240	355, 957, 222	555, 642, 070
1902.....	36, 290, 000	283, 770, 603	36, 289, 060	356, 339, 663	508, 381, 488
1903.....	35, 950, 200	284, 571, 893	40, 270, 428	360, 792, 521	472, 796, 387
1904.....	37, 852, 200	251, 714, 880	41, 752, 067	331, 319, 147	447, 946, 190

What the future will bring forth is not for me to say, but there are indications of a greater purchasing power on the part of wearers of woollen and worsted materials, and there are no large accumulations of raw material for those in the trade to work upon. At the same time it is by no means safe to argue that because the supply of wool was so much at a given period and the population of the world is so much greater now that values should advance in a relative degree, for substitutes are being handled freely. There is no doubt that the use of cotton has had much to do with checking the advance of wool in the past and is bound to operate in the same direction in the future. This much, however, does seem certain, that given anything like a normal consumption there is no need to fear a "slump" in any description of decent wool in the immediate future, and that prices generally will be maintained on a fairly high basis for some period.

ELECTRIC PLANT IN FORMOSA.

(From United States Consul Fisher, Tamsui, Formosa.)

In the early part of 1904 the engineering department of the Formosan government commenced work on the construction of an electric plant on the upper course of the Shinten River, about 10 miles to the southeast of Taihoku. The site selected is immediately below the junction of the Hokusei and Nansei rivers, which form the Shinten.

Water power will be used, and will be supplied by a canal cut from the upper source of the Nansei River (south branch), which flows down the mountains in a series of cascades. Just above the junction the course of this stream describes a reversed S, which may be used to illustrate the construction of the canal from the upper point of the figure to its center, where the water is brought to the opposite side of the river by means of siphon pipes, thence to the lower point of the figure to the site of the plant, where it will have a fall of about 50 feet. The length of the canal is 7,200 feet, which includes a tunnel of 220 feet, and 280 feet of two-row siphon pipes each 5 feet in diameter. The width of the canal at bottom is from 11 to 12 feet, and the discharge will be 250 cubic feet per second. This is intended to give 1,000 horsepower, but 650 horsepower will be sufficient for the present requirements.

The plant will be equipped with two McCormick turbines, each of 384 horsepower and 450 revolutions per minute, two 3-phase Westinghouse alternating generators of 250 kilowatts, 11,000 volts, and 450 revolutions per minute, a McCormick exciter turbine of 49 horsepower and 950 revolutions per minute, and a Lombard governor, type D.

Considerable delay has occurred in the arrival of some of the equipment from the United States, and the plant will not be completed before June or July, 1905. It will supply the electric power for lighting the cities of Taihoku and Daitotei (Tamsui), also for an ice plant, sawmill, and other works in the city first mentioned. The cost, including the construction of the canal, will be approximately \$175,000.

FRED D. FISHER, *Consul*.

TAMSUI (DAITOTEI), FORMOSA, *December 17, 1904.*

MINERAL SPRINGS OF BADEN-BADEN.

(From United States Consul Brittain, Kehl, Germany.)

This report is prepared to answer inquiries from the United States regarding the health resort of Baden-Baden, the mineral springs, hotels, etc.

The mineral springs, about twenty in number, have their presumed source about 5,000 feet beneath the surface in beds of granite. The waters of the Hauptstollen spring are such as to cause its classification with the alkaline chloride of sodium springs. These waters contain also a quantity of lithium and arsenic, and their temperature at the mouth of the spring is 62½° C. (145° F.), and at the "Trinkhalle" 55° C. (131° F.). They are especially recommended for the cure of gout, rheumatism, heart disease, and malaria.

There are two beautiful bathing establishments—the Grand Ducal Friedrichsbad, for males, where 66,000 baths were taken during the

first eleven months of 1904, for which 123,000 marks (\$29,274) were received, and the Grand Ducal Augustabad, for females, where 28,000 baths were furnished during the same period at a cost of 58,000 marks (\$13,804). From the Fango treatment, or mud baths, 15,000 marks (\$3,689) were received. In the Grand Ducal State Bath 1,320 persons were cared for, all, excepting 362, at public expense.

The leading hotels are the Hotel Stephanie, Hotel Messmer, Hôtel d'Angleterre, Hôtel de l'Europe, Hôtel de France, Hôtel de Hollande, Hôtel de Russie, Hôtel Cour de Baden, and the Hôtel Ville de Baden. There are numerous good pensions where special rates may be obtained where persons remain for some time. Hotel rates for transient boarders are from 8 marks (\$1.86) per day up, according to accommodations.

JOSEPH I. BRITTAIN, *Consul*.

KEHL, GERMANY, *January 2, 1905.*

ABYSSINIA.

(From United States Consul Eavndal, Beirut, Syria.)

The early dispatch of a German commercial mission to Abyssinia causes the Egyptian Gazette to advise English manufacturers and merchants to "wake up." It says:

All travelers in that country are practically agreed as to its presenting many promising openings for European trade. The Negus, too, is more than willing to substitute commerce for fighting as the chief national industry, provided that "pacific penetration" for political purposes is not attempted. While most careful to hold the balance equally between outside nationalities desirous of selling to or buying from his subjects, the Emperor naturally feels sympathetically drawn to those neighbors of his who smashed his most dangerous foe, the Mahdi. Apart from that rescue of Abyssinia from a standing peril, it is coterminous with the Sudan for hundreds of miles, and there seems every likelihood of a considerable volume of frontier trade gradually being built up. On the eastern side France has got the lead through the construction of a railway from Djibouti to Harrar, but a British line from the coast will, before very long, come into rivalry. There has been some talk, also, about a branch from the Khartum terminus of the Egypt-Sudan Railway to western Abyssinia; the engineering difficulties are said to be slight. But dealing with the situation as it now presents itself no time should be lost by our producers and distributors in sending intelligent agents to ascertain what are the real wants of the country and, what is equally important, the prices the population would be able to pay for British supplies.

A few days ago the annual report of the directors of the International Ethiopian Railway Trust and Construction Company, Limited, was published, in which the directors declare that "they are glad to be able to state that negotiations are now proceeding with a view to the neu-

tralization of Abyssinia and the internationalization of the Imperial Ethiopian railway." The trust company appears to have increased its holding of Ethiopian railway bonds and, in addition, "acquired, among other assets, certain rights with regard to the future extension of the line, the prolongation of which to Addis Abeba, the capital of Emperor Menelik's domains, now appears, in one way or another, assured." I would quote further from the report, as follows:

The line is now working regularly between Djibouti and Dire Daouah, a distance of 310 kilometers, and the traffic receipts are increasing, the returns for the first six months of 1904 being 4,871 tons, as compared with 2,895 tons for the corresponding months of last year and 2,008 tons for the year preceding. From Dire Daouah a wagon road has been constructed toward Harrar, the commercial center of Abyssinia, which is thus placed in direct communication with the Red Sea. During the past year negotiations were in progress between the Emperor Menelik and the chairman of the railway company, having for their object a further agreement with respect to the extension of the line from the rail head at Dire Daouah to Addis Abeba, in accordance with the original objects of the company and with the terms of the concession granted in 1904. But in the meantime the board, while loyally supporting the French Government and the Imperial Ethiopian Railway Company in their endeavors to push forward the railway, have never lost sight of the desirability of harmonizing English and French commercial interests, and indeed those of all the nations concerned in the Ethiopian railway.

The directors are pleased to be able to state that their views are now regarded with favor by the governments interested, as well as by the Emperor Menelik himself, and they believe that an arrangement can shortly be arrived at which will recognize and guarantee the independence of Abyssinia, and harmonize the commercial policies of all the nations concerned in the railway, thus removing the possibility of any serious conflict hereafter. In this way it is also believed that the finance of the extension of the line to Addis Abeba can be most economically carried out, while the internationalization of the Ethiopian railway would, it is needless to point out, be of great benefit to all stockholders alike.

The annexed maps show alternative plans for carrying into effect a scheme of internationalization. From plan No. 1 it is seen that the French and British ports of Djibouti and Berbera would have equal rights, and the railway would start on an international basis from Dire Daouah or Harrar to Addis Abeba. Under plan No. 2 Djibouti would become a free port for Abyssinia, French commercial interests in French Somaliland being secured, and the line would be internationalized throughout to Addis Abeba. As the adoption of plan No. 1 would entail the construction of another line in Somaliland for which there may not be sufficient traffic, plan No. 2 would appear to be the more expedient.

It is anticipated that the tax on all goods going in and out of Abyssinia, which the railway company have already the right to collect under the terms of their concession, would serve as a satisfactory guarantee of the capital necessary for the various extensions. The directors have established an agency at Addis Abeba under the management of Capt.

R. Brian England and M. Leopold Didier, who have most zealously watched the company's interests in that country and have every opportunity, owing to their good relations with all concerned in Abyssinia, of entering into fresh business there under the most favorable circumstances. In view of the growing importance of Djibouti, and of the probability of its becoming a free port and the future harbor to which all the traffic of Abyssinia will be directed, the board decided to acquire important interests at that port, comprising town sites, houses, etc., which should increase substantially in value when the internationalization of the railway is completed.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *December 26, 1904.*

EXPOSITION OF 1905 AT LIEGE, BELGIUM.

(*The Acting Secretary of State to the Secretary of Commerce and Labor.*)

SIR: The Department has received a note, dated the 4th instant, from the Belgian Minister at this capital stating that, in connection with the exposition of 1905, there will be held at Liege, in September next, a conference of chambers of commerce and commercial and industrial corporations, and that he has been instructed by his Government to extend to this country an invitation to be represented officially at said conference.

Baron Moncheur sends with his note a number of copies of the programme of the conference, and requests that they may be distributed among such chambers of commerce and commercial or industrial associations as should be interested in the matter.

The programmes referred to have been sent, addressed to your Department, under separate cover.^a

I have the honor to be, etc.,

F. B. LOOMIS, *Acting Secretary*.

DEPARTMENT OF STATE, WASHINGTON, *January 25, 1905.*

AUSTRALIAN AND NEW ZEALAND TRADE WITH ENGLAND IN 1904.

(*From United States Consul Bray, Melbourne, Australia.*)

The total value of merchandise (gold not included) exported from Australia to England for the first nine months of 1904 was \$83,782,507, which, compared with the total of \$62,924,224 for the first nine months of 1903, shows an increase of \$20,858,283, and compared with the total of \$80,211,798 for the corresponding period of 1902, shows an increase of \$3,570,709.

^a Copies of the programmes can be obtained at the Bureau of Statistics, Department of Commerce and Labor.

The following is a comparative statement of the exports of merchandise from Australia and New Zealand to England for the first nine months of 1902, 1903, and 1904:

Value of merchandise exported from Australia and New Zealand to England for the first nine months of each of the years 1902, 1903, and 1904.

From—	1902.	1903.	1904.
Victoria	\$25,204,012	\$17,911,674	\$27,387,947
New South Wales	33,522,944	30,282,065	33,535,971
Queensland	6,580,929	4,321,520	6,802,574
South Australia	8,539,155	4,974,872	8,060,851
Western Australia	4,451,608	5,120,692	5,640,687
Tasmania	1,835,150	2,863,351	2,354,238
Total Commonwealth	80,211,798	62,924,224	83,782,367
New Zealand	47,833,198	56,810,086	56,569,303
Grand total	128,044,996	119,734,260	139,372,416

To the foregoing are to be added the exports of gold and silver to England for the same periods, as follows:

Value of gold and silver exported from Australia and New Zealand to England for the first nine months of each of the years 1902, 1903, and 1904.

From—	1902.	1903.	1904.
Australia	\$18,833,715	\$22,341,566	\$16,639,700
New Zealand	2,398,270	2,017,432	1,831,124
Total	21,231,985	24,358,998	18,471,824

The imports into Australia from England show only a moderate increase over those of 1903. The following is a comparison of the imports of British goods into Australia and New Zealand for the first nine months of 1902, 1903, and 1904:

Value of imports into Australia and New Zealand from England for the first nine months of each of the years 1902, 1903, and 1904.

States.	1902.	1903.	1904.
Victoria	\$19,619,853	\$15,892,276	\$18,964,001
New South Wales	26,883,843	21,208,835	22,360,901
Queensland	10,524,655	5,775,971	5,816,736
South Australia	5,632,793	5,442,559	6,216,919
Western Australia	9,758,479	7,915,562	7,521,638
Tasmania	1,799,938	1,736,109	1,802,686
Total Commonwealth	73,219,561	58,971,612	62,583,883
New Zealand	19,668,597	22,142,268	23,106,680
Grand total	92,888,158	79,113,880	85,690,563

The total of \$62,583,033 imports to the Commonwealth shows an increase of only \$5,611,421 as compared with the imports in the corresponding period in 1903, but falls short of the total for the first nine months of 1902 by \$10,636,528.

JOHN P. BRAY, *Consul-General.*

MELBOURNE, AUSTRALIA, December 20, 1904.

AMERICAN TRADE IN GUATEMALA.

(From United States Consul-General Winslow, Guatemala City, Guatemala.)

The United States should have a greater portion of Guatemalan trade; in fact, it should furnish at least 80 per cent of the imports, as the superiority of nearly all of the United States wares is recognized. But I find three important matters working against its manufacturers and exporters in the markets of Central America, and especially in this Republic.

The question of credits is very important here, where money is worth 8 and 10 per cent. The merchants complain that they must pay cash for purchases in the United States, while they can get credits of from four to six months in Europe. I would suggest that American houses unite in looking up the standing of houses here, in order to be in position to meet their foreign competitors along this line. There are many responsible and honorable houses in this city which are worthy of confidence, and which deal largely with European houses.

The proper packing of goods is very important and should be studied by our shippers, and especially by those who ship to the Pacific ports. This is especially true of all breakable articles, and can not receive too much attention. It must be remembered that freight to Pacific ports gets very rough handling.

The third obstacle is discrimination in ocean freights in favor of the European shippers, notwithstanding the great differences in distance. Freight on general merchandise is \$35 per ton to New York and only \$25 per ton to London and Hamburg. Shipments of hides are charged \$30 per ton to New York and \$20 per ton to London and Hamburg. The rate on coffee to New York is \$15 per ton, and to London and Hamburg \$13.50 per ton. The rate on sugar is the same to the ports mentioned.

The rates are from 10 to 20 per cent higher on goods leaving the United States for Guatemala than on goods from Guatemala to the United States. To illustrate, the minimum charge to San José, the principal port of this country, from San Francisco, is \$3, while from San José to San Francisco it is \$2.50. The difference in rates for salt is even greater, the charge being \$5 from here to San Francisco, and \$7 from San Francisco to San José. As nearly as I can learn, the rates from Europe to this country are lower than from here to Europe. This reversal in charges operates against the American producer, as freightage is a heavy item on flour, groceries, salt, machinery, hardware, and lumber, which make up a large part of the imports into this country. According to my best information this discrimination is almost wholly because of the higher rates charged by American steamship lines.

ALFRED A. WINSLOW, *Consul-General.*

GUATEMALA CITY, GUATEMALA, *January 9, 1905.*

POULTRY INDUSTRY OF THE UNITED KINGDOM.

(From United States Consul Mahin, Nottingham, England.)

The poultry industry of the United Kingdom in 1904 was prosperous, for several reasons. Consumption is apparently growing more rapidly than production; the breeding season was unusually favorable, making the work of hatching and rearing comparatively easy and satisfactory in results; and there was uncommonly little complaint of infertility of eggs and death in the shell, due in large measure to the favorable weather and also to the better methods which producers are learning and applying.

The number of special establishments devoted to egg and poultry production largely increased. It is calculated, however, that the British farms could accommodate three times as much poultry as at present without displacement of any crop or stock. It seems strange to the observer that such a condition prevails when poultry produce is so high priced, fresh eggs averaging during a year about 3 cents each, and a fowl for the table always costing about 80 cents.

The practice of artificial hatching and rearing is spreading in this country, and means of preventing excessive mortality are now successfully applied. Formerly the loss of incubator-hatched chickens was sometimes 50 per cent, but now it is being reduced to from 5 to 10 per cent of the loss by the ordinary hen-hatching process, and even less in special cases. It is noted that in an experiment conducted at the College Poultry Farm, Theale, last spring, out of 60 chickens hatched and reared artificially, only one died, and that died when 2 days old: taking the entire season, with an output of more than 3,000 chickens and ducklings, the loss from February to July was not quite 3 per cent. "Plain food, exercise, and absence of coddling are the secrets, but the greatest of these is exercise. Making the young birds work for their food from the first strengthens the frame and muscles, and protects them against all the ills that fowls are heir to. As a result, the use of incubators and brooders is growing rapidly, and what was at one time impossible is within the reach of many." So runs the account of this experiment. Another observation is that the quality of eggs and poultry is rapidly improving under scientific methods. Cooperation and technical instruction in agricultural colleges are mentioned as important factors in the present development of the industry.

The imports of poultry and eggs into this country in 1902, 1903, and 1904 were valued at \$31,000,000, \$33,000,000, and \$33,500,000, respectively, the small increase in 1904 being attributable mainly to the enhanced home production, though partly due perhaps to the hard times. As usual, Russia was the largest contributor of eggs—35 per

cent of the entire import—and Denmark, with 18 per cent, was next. The United States does not appear separately, but is perhaps included with "other countries," furnishing 6 per cent. In the poultry list, however, the United States stands fourth, with a value of \$1,069,593 out of a total of \$5,299,833—Russia leading, with \$1,672,913, and Belgium and France coming next, each with somewhat more than our country.

It is estimated that the total consumption of eggs and poultry in the United Kingdom for 1904 amounted to \$88,000,000. This left \$57,000,000 for the home product, a proportion which it is believed can be largely increased without the displacement of any other product.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 23, 1905.*

SULPHURIC ETHER AND COLLODION FREE OF DUTY IN THE NETHERLANDS.

Under dates of January 20 and February 1, 1905, the American minister at The Hague (Mr. Newel) reports that sulphuric ether and collodion required in the preparation of photographic paper and collodion required in the preparation of whalebone are exempted from customs dues on importation into the Netherlands. The regulations governing their free admission are as follows:

Article 1.—Sulphuric ether and collodion required in the preparation of photographic paper and collodion required in the preparation of whalebone shall be exempt from customs dues under the following regulations:

Article 2.—Anyone desiring such exemption shall address the minister of finance, stating the place in which the factory is situated, the surveyor's section, and the number of the factory and the quantity of each of the liquids estimated to be used annually. The minister of finance shall determine the quantity of material that may annually be exempt from dues as well as the minimum of each importation.

Article 3.—On the importation of sulphuric ether and collodion, in regard to which exemption is desired, mention shall be made of such desire in the declaration prescribed by article 120 of the general law of August 26, 1822. (Official Gazette, No. 28.) To that declaration, subsequent to the deposit of security for the customs dues, a waybill shall be attached mentioning the said desire. The transit of the liquids to the factory shall be effected under seal.

Article 4.—The importation to the factory shall be effected under the supervision of the officials of the customs and excise, in whose presence the quantity of such sulphuric ether shall be immediately mixed with 1 kilogram (2.2046 pounds) of acetone per 100 kilograms (220.46 pounds) and the collodion with 2 kilograms (4.4092 pounds) of pure methylated spirits and 0.5 kilogram (1.1023 pounds) of acetone per 100

kilograms (220.46 pounds). The officials shall make a statement on the waybill respecting the imported quantity and the mixing. The materials required for the mixture shall be supplied by the tax collector at the manufacturer's expense.

Article 5.—The mixture shall be used for no other purpose but the preparation of photographic paper and may not be removed from the factory.

Article 6.—The collector within whose district the factory is situated shall keep an account with the manufacturer of the quantity of sulphuric ether and collodion imported free from dues. In case more should be imported than the quantity in regard to which exemption from dues has been granted the waybill shall not be cleared for the excess and the dues deducted from the security.

Article 7.—At the end of every year the party enjoying exemption shall tender the collector a written and signed statement of the quantity of sulphuric ether and collodion admitted free from dues and still on hand at the close of such period. This quantity shall be regarded as the first importation in the ensuing year, and as such shall be entered in the account referred to in article 6. Until such statement is tendered no new importation shall be allowed.

Article 8.—The officials authorized thereto by the collector are empowered within eight days of the expiration of the year to inspect the quantity of sulphuric ether and collodion in the factory, no matter whether the statement mentioned in the preceding article has been made or not.

Article 9.—On evidence of abuse or any attempt thereto, as also of negligence of the provisions of this order, the minister of finance is authorized to refuse the manufacturer all further free importation of sulphuric ether and collodion.

TELEGRAPHS AND TELEPHONES IN SPAIN.

(From United States Consul Bartleman, Seville, Spain.)

TELEGRAPHS.

At the beginning of 1904 telegraph lines in Spain had reached the following extensions: Overhead wires, 18,176 miles; underground cables, 65 miles; submarine cables, 2,044 miles.

The telegraph stations were divided as follows: 850 Government; 572 pertaining to railroad companies but maintained for public service; 167 municipal; 17 private, and 12 semaphores. The following makes of apparatus were in operation: Morse, 1,282; Hughes, 104; various, 122; total, 1,508. The personnel of the service consisted of 133 superiors, 2,019 subordinates, and 908 assistants.

The domestic messages transmitted in 1904 were: Official, 386,462; private, 2,955,482; railroad, 41,687; messages pertaining to telegraph service or its branches, 165,747; total, 3,549,978. The foreign messages in the same year were: 538,245 transmitted; 633,275 received; 122,391 in transit; total, 1,293,911.

TELEPHONES.

Public telephones installed by private companies numbered 15,003 December 31, 1903, of which 52 were central, 27 branch, and 14,924 subscription instruments. The public telephone lines directed by the Government were 10 in number, consisting of 9 centrals and 1 branch, and comprising 676 stations, distributed in the following towns: Córdoba, Murcia, Oviedo, Gijón, Mieres, Pola de Siero, Sama, Trubia, and León. There were 13 long-distance lines, with stations at Madrid, Segovia, San Ildefonso, Alcalá de Henares, Guadalajara, Escorial, Jetafe, Toledo, Oviedo, Mieres, Pola de Siero, Sama, and Trubia. Official telephone lines, 7 in number, were also established at Avila, Bilbao, Madrid, San Sebastián, Segovia, Tortosa, and Vich, and comprise, besides centrals, 187 installations. There were 1,096 private lines, with 2,138 stations. The total number of telephone installations operating in Spain at the close of 1903 was 17,349.

TELEGRAPH AND TELEPHONE RECEIPTS.

Receipts derived from both domestic and foreign telegraph services were \$759,991 and \$316,648, respectively, while the receipts from the telephone service were \$125,373, making the total proceeds to the treasury from these two sources \$1,202,012. In converting Spanish currency into the American equivalents, the peseta was estimated at 13.5 cents.

R. M. BARTLEMAN, *Consul*.

SEVILLE, SPAIN, *January 3, 1905.*

AUTOMOBILES IN SWITZERLAND.

(From United States Consul Gifford, Basel, Switzerland.)

There is only one house in Basel doing a considerable business in automobiles—C. Schlotterbeck, No. 45 Steinenring. It has sold some American machines (to carry two persons) at the price of 4,000 francs (\$772). These two or three pioneer machines seemed to give good satisfaction at first, but are now said to have lost favor on account of an alleged lack of durability. Other carriages from the same American manufacturers, designed for four persons, are declared unacceptable to the trade, the French styles being preferred.

The same objection is made to automobiles of the American type that has always prevented American vehicles in general from obtaining a firm foothold in European markets, viz, size and appearance. The people, accustomed to the use of larger, if not stronger, material,

are afraid the American frame will break down under its burden. It is hard to account for this prejudice, since carriages built with a view to use on the so-called American roads are certainly capable of withstanding the much less serious wear and tear to which they are exposed on the magnificent thoroughfares which are to be found even in the most secluded districts of England, France, Germany, and Switzerland.

However, it is the opinion of several competent authorities that in the course of time, when the United States is able to manufacture a solid article on a large scale, as in the case of agricultural and other machinery, it will be able to compete with the French and Germans. An American automobile that could be sold much cheaper than the rival types, say for 3,000 francs (\$579) for instance, would even now find many buyers.

The prospect for American automobiles will be affected, too, by the provisions of the commercial treaties which are now in course of negotiation with the contiguous countries. The present duty on imported articles is 20 francs (\$3.86) per quintal (220.46 pounds). On conclusion of the treaties the new Swiss general tariff will go into operation against the United States and such other countries as may not have renewed their commercial arrangements with Switzerland. It is anticipated that this change in the import duties will take place about January 1, 1906. If at that time the United States has not secured, by treaty, the advantages that will no doubt have been accorded to competitors, its exporters will have to pay three times the duty mentioned. It should be stated that motor carriages imported in detached parts may be introduced at present on payment of 6 instead of 20 francs (\$1.158 instead of \$3.86) per metric centner (220 pounds).

The number of automobiles used in Switzerland is increasing rapidly, and there is sure to be a very large demand for them as soon as the price is low enough to place them within reach of people of moderate means. This country possesses already a number of factories, of which the most important belong to the Messrs. Martini in Frauenfeld. Foreign machines that are favorites in this market are the famous "Mercedes," manufactured at Cannstatt, near Stuttgart, Germany, and the products of the Benz factory in Esslingen, Germany. The principal task of the American automobile industry will be to meet successfully the preference, or, if one may say so, the "prejudice" for these and other well-known and firmly established favorites.

Motors designed for traction seem likely to become a Swiss specialty. Already auto coal, beer, and grocery wagons are no longer a novelty in the streets. A machine of this kind has been patented by Eugen Soller, an importer of American manufactured goods, at 43 Clara-graben, in this city. Though a manufacturer of this specialty, Mr. Soller intends to import and sell American automobiles, which do not

compete with his traction car. Manufacturers who wish to sell their wares here may add to their list his name, as well as that of Carl Bea, jr., 94 Mülhauserstrasse.

GEORGE GIFFORD, *Consul*.

BASEL, SWITZERLAND, *January 14, 1905.*

AUTOMOBILES IN WESTERN NORWAY.

(*From United States Consul Cunningham, Bergen, Norway.*)

The automobile has not been introduced into this part of Scandinavia. Its appearance would be looked upon with disfavor, and with but little hope that its frequent use might overcome the displeasure which its advent would cause. There are no very wealthy people here, though there are many well to do and in the Norwegian sense wealthy residents, who indulge in many luxuries and could easily gratify their desire for the possession of the popular carriage of the day; but the universal sentiment is one of disfavor, a feeling that the automobile so well adapted to other countries is not suitable to nor safe for use in Norway. The advent of the motorist would no doubt be the signal for a most emphatic protest from the country people, because of added danger to travel by carriage along the narrow roads, no less than the fear that one of their means of revenue during the summer season would be greatly diminished by the gradual substitution of the automobile for the carriage now in use.

Norway is famous for her many miles of excellent roads and the wonderful feats of engineering achieved that good, solid roads might be had with the least possible grade over mountains of considerable altitude. These roads are well adapted for their present use, but would not be suitable for the automobile. The roadbeds are good and firm, but in no other sense would they be suitable for a motor. Notwithstanding the wonderful work of most skilled engineers the grades are often very great. In the windings of the roads sharp curves are often met. Often on the mountain side the road is cut into the solid rock, and only at occasional intervals broad enough to allow carriages to pass. At these places a false step or a wrong move by an unruly motor would plunge it down great depths, so that the introduction of the automobile would not only be perilous for the autoists but would render travel by carriages more hazardous. It would be difficult to find more than a quarter of a mile of absolutely straight road in western Norway. This, with the fact that usually one side of the road is a high bank, shows that motoring would be attended with no small amount of danger. The prospects are not inviting to the exporter of automobiles to attempt to introduce them in this vicinity.

E. S. CUNNINGHAM, *Consul*.

BERGEN, NORWAY, *December 28, 1904.*

AUTOMOBILES AND MOTOR CYCLES IN BELGIUM.

Under date of January 8, 1905, United States Consul James C. McNally, of Liege, Belgium, reports as follows:

The steady increase in the automobile and motor cycle business is shown in the following statistics covering Belgium's imports and exports of both articles, as well as of the detached pieces and parts necessary to their repair and construction:

Value of imports into Belgium of automobiles, motor cycles, and detached parts, and exports thereof from Belgium, in 1902, 1903, and 1904.

Commodity.	1902.	1903.	1904.
IMPORTS.			
Automobiles.....	\$80,193	\$63,812	\$132,336
Motor cycles.....	3,688	5,236	10,886
Detached parts thereof.....	4,739	5,767	9,036
Total	88,620	94,815	152,258
EXPORTS.			
Automobiles.....	220,236	234,500	280,332
Motor cycles.....	82,871	259,315	260,336
Detached parts thereof.....	190,191	458,522	382,336
Total	493,298	952,337	923,004
Excess of exports.....	404,678	857,522	770,858

STUDY OF RAILROADS IN AFRICA.

(From United States Consul Ravndal, Beirut, Syria.)

According to Levantine journals, an expedition will shortly start from Cairo under the leadership of M. Salesses, manager of railways in French Guinea, who has been commissioned by the colonial authorities to study all the railway systems in Africa except those of Algiers and those which would take him too far afield, such as the Jibuti line. His duty will be to examine at first hand all the systems of other powers in Africa, in order that he may profit by anything which he may think worthy of imitation by the French colonial railways.

M. Salesses will start from Cairo and go to Khartum by rail. From Khartum he will go to Gondokoro and Uganda, traveling from Port Florence to Mombasa by rail. After studying the German East African line he will go from Beira to Fort Salisbury and Bulawayo. Having visited Victoria Falls he will go to the Cape via Kimberly. The German, Portuguese, Kongo Free State, and English lines on the west coast of Africa are also to be investigated by him, and finally the lines in the French colonies, including those from Dakar to St. Louis, and from Kayes to the Niger will also be examined. At the conclusion of his journey M. Salesses will make an exhaustive report, similar to that

which M. Julliediere made on the railways of India for the authorities in Indo-China.

In commenting upon the expedition, the Egyptian Gazette remarks:

This mission, which is well worth attention in England and the colonies, is significant of the thoroughness with which the French have of late years taken up colonial questions. Nothing is now left to chance, but everything is carefully studied, and the advances which have been made in West Africa and Madagascar show that the French are determined to do away with the reproach of not being a colonizing nation. A little more enterprise among private citizens is all they need to make their colonial possessions successful from every point of view.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *December 28, 1904.*

NINGPO VARNISH.

(*From United States Vice-Consul Cloud, Hangchau, China.*)

I desire to call attention to what is known among foreigners in this country as "Ningpo varnish," made from the sap of the "varnish tree" (*Rhus vernicifera* or *Vernix vernicia*), which grows very extensively in western and southwestern China. The name was originally given because varnishers from Ningpo were more skilled in its preparation and use than others.

The sap is gathered in the interior and brought to Huichoumin, in the southern part of Anhui Province, where it is refined and then distributed to all parts of the Empire. It is sold by the retailer in the raw or pure state—that is, the pure, refined sap, and in the prepared form, which is a mixture of the refined sap with certain proportions of "wood oil." It is in the proper blending of these that the skill of the varnisher is shown, as the color desired, the wood to be varnished, moisture of the atmosphere, and temperature are conditions that enter into the problem. The uses of the varnish are manifold. Wherever varnish is desired the Ningpo kind is used, and is so far superior to the ordinary varnish of commerce as to be in a class by itself. It is particularly adapted to floors, tables, cabinets, and such articles as are in constant use. It is also excellent for furniture of all kinds, as it does not scar easily and may be scrubbed with boiling water without the slightest injury to the very high polish of which it is capable.

The greatest drawback to its use is the danger of "lacquer poisoning" to the workmen who use it. This is similar to "ivy poisoning," and when the sap is fresh is regarded as rather dangerous. Once the varnish is dry there is no danger whatsoever. It may be used in any climate that has a rainy season or wet weather. The varnishing is always done during the wet season and is allowed to dry slowly as the moisture of the atmosphere decreases.

The market value of the pure sap, after refinement, is about \$1.15 Mexican coin (about 53 cents) per catty ($1\frac{1}{2}$ pounds avoirdupois), while the mixed varnish may be had for \$0.56 (about 27 cents) per catty. It may be mixed ready for use before shipment, and does not deteriorate when once it has been properly blended. Something like a hundred years ago the Ningpoese had a monopoly of the varnish trade; but in some unaccountable manner they have lost it to the Huichau firms. Practically all the varnish used at the present time comes from Huichau, as its monopoly depends on a knowledge and skill which the Huichau people seem to be able to guard most effectively.

The supply of the crude sap would seem to be unlimited, as the trees from which it is derived are found in great abundance in all the middle western and southwestern provinces. With proper methods of gathering the sap and of refinement it should be made one of the most profitable industries of China. So far as I am able to learn but little or none of it is exported to America.

F. D. CLOUD, *Vice-Consul.*

HANGCHAU, CHINA, *December 16, 1904.*

NOTES.

Rice in Liberia.—Notwithstanding the fact that rice raised by native Africans is more nutritious and could be raised in quantities sufficient to supply all home consumption, the Liberians import much of it; indeed, they prefer the imported article, and many of them will have no other kind. The imports of rice to Liberia for the December quarter, 1903, amounted to 7,143 hundredweight, valued at \$16,460. Of this quantity 1,775 hundredweight, valued at \$4,810, came from England; 5,121 hundredweight, valued at \$11,111, from Germany, and about 247 hundredweight, valued at \$539, from other countries. This desire for foreign rice is found to exist in all the settlements.—*George W. Ellis, Chargé d'Affaires, Monrovia, Liberia, November 27, 1904.*

Future of Liberia.—United States Consul-General H. Clay Evans, London, England, under date of December 1, 1904, transmits the following from the December issue of Chambers' Journal:

Sir Harry Johnston, who has recently returned to England on the conclusion of a journey to Liberia, during which he visited the whole of the coast line and made several expeditions into the interior, is very hopeful of the future of that country, which has made great progress since he last saw it about twenty years back. The Liberian Government has so encouraged the use of English among the natives that there is scarcely any important tribe or chief that has not several individuals able to speak intelligible English, and therefore act as interpreters. The natives are well disposed toward the white man, and consequently travelers have no difficulty in dealing with them. The country is one great rubber-producing forest. Coffee grows there wild, and it is also being extensively cultivated by the Americo-Liberians. The forests also contain many valuable timbers, dyewoods, and drugs, while the oil palm is exceedingly abundant. In the interior of the country ivory is plentiful, for there are many elephants. Cacao is being increasingly planted, and, like cotton, thrives remarkably well. There are indications of the presence of gold in the country, and a 10-carat diamond is alleged to have been discovered there. The existence of hematite iron ore in much of the country along the seaboard is undoubted, and the natives work it to a considerable extent. The climate of Liberia is much pleasanter than that of the regions north and south of it; it is much healthier, and there is a remarkable absence of insect pests.

Inquiry for American Alcohol.—Under date of December 7, 1904, United States Consul-General Robert P. Skinner, Marseille, France, transmits the following communication addressed to him December 5, 1904, by J. M. Mills, "Rockside," Stewart street, Stockport, England:

I see in a current number of the *Oil and Colorman's Journal* a note appearing from you as to alcohol. I should esteem it a great favor if you would kindly furnish me with addresses of manufacturers of the same. I can do an immense business in the same if prices and quality are satisfactory.

Railway Map of Spain and Portugal.—Under date of December 7, 1904, United States Consul R. M. Bartleman, Seville, Spain, transmits a railway map of the Iberian Peninsula, which has just been published, and which, the consul says, is considered the most exact and complete map of the kind ever issued. The map is on file in the Bureau of Statistics, Department of Commerce and Labor, where it may be consulted by interested parties.

Mileage Books in Baden.—As previously reported,^a most of the railroads in the Grand Duchy of Baden are owned by the State, only a very small percentage being private roads. The State roads sell mileage books for 1,000 kilometers (621.4 miles), good for one year, at all stations. Books for the third class for 500 kilometers (310.7 miles) are also sold. The prices are, for first class, 60 marks (\$14.98); for second class, 40 marks (\$9.52), and 25 marks (\$5.95) for third class, or 12.50 marks (\$2.98) for 500 kilometers, third class. When all of the mileage has been used 1 mark (23.8 cents) will be returned if the book is handed in at any of the stations, or 50 pfennigs (12 cents) for the 500-kilometer book. From statistics lately appearing it is seen that during the past fiscal year there were sold in all 459,608 kilometer books.

The gross receipts for the State railroads amounted to 79,395,235 marks (\$18,896,065.95) and the expenses were 56,878,479 marks (\$13,537.078), showing a surplus for one year of 22,516,756 marks (\$5,358,987.95). This was better than the previous year, when the gross receipts amounted to 75,680,644 marks (\$18,011,993.25), the expenditures to 61,453,795 marks (\$14,626,003.20), and the surplus to 14,226,849 marks (\$3,385,990.05).—*E. Theophilus Liefeld, Consul, Freiburg, Germany, December 12, 1904.*

Newspapers in Berlin.—About 1,500 newspapers and periodicals are published in Berlin at the present time. Among these are about

^aDaily Consular Reports, No. 1996, July 6, 1904.

50 political dailies, 30 suburban papers, 32 political and social-political journals, over 60 comic papers, and over 40 women's journals dealing with the "Feminist" movement. There are about a dozen purely literary organs, 28 musical and literary journals, appearing weekly, fortnightly, or monthly. There are 25 art magazines and 25 military organs. The journals concerned with trade, industry, and crafts are in their hundreds. Each various trade has a journal devoted to it alone. There are religious, ethical, and æsthetic journals. There are 90 different medical journals, an even greater number of publications devoted to law, statesmanship, administration, and political economy, and there are about 100 special papers for architecture and engineering.—*Richard Guenther, Consul-General, Frankfurt, Germany, December 14, 1904.*

Electric Railway Switches.—United States Consul-General H. Clay Evans, London, England, under date of December 1, 1904, transmits the following from the December issue of Chambers' Journal:

Mr. Thomas Miller, of 15 Partick Hill road, Glasgow, has patented a method by which the driver of an electric tram car can operate the "points" which he is approaching, thus dispensing with the ordinary pointsman and the long levers which, in crowded thoroughfares, are both a hindrance and a danger to traffic. From the provisional specification we gather that the movement of the rail is brought about by electro magnets, the current to excite which is controlled, by means of a switch, by the driver of the car. It would be impossible to explain how this is brought about without diagrams, but the method seems perfectly feasible, although it is not quite clear how it could be applied to tramways on the conduit system, where electric connection is underground. Electrical engineers will no doubt put the invention to a practical test, by which its value will be at once determined.

Public Improvements in Puerto Cabello, Venezuela.—A highway has been constructed from San Felipe to Puerto Cabello, but the roadway is described as not yet available for traffic for lack of bridges, and the coffee growers continue to send their crops by coast steamers to this port. A highway has been constructed from Maracay to Ocumare with the intention of establishing an accessible port for shippers at the latter place, but steamers can not call at Ocumare until the harbor is completed and a wharf built. The bridge of Aguirre has been reconstructed on the highway from Valencia to Nirgua and has received the approval of those most interested.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, December 20, 1904.*

Cotton Cloth and Rifles Wanted in Ethiopia.—The Department of Commerce and Labor has received, through the Department of State, a communication from Aristeide G. Voultron, Adiso Abebo, Ethiopia (address as given by the writer), who desires to be placed in touch with American cotton factors and rifle manufacturers. Mr. Voultron incloses a sample of unbleached cotton cloth, which is on file in the Bureau of Statistics, and desires the address of the factory which produces it, and the price per bale at which it can be laid down at Aden. He says he will, if terms are favorable, give large cash orders therefor. The brand he desires is the "camel with one hump." He also desires to be informed as to price per thousand of Gras-Lebel and Lee-Netford rifles and cartridges.

Haberdashery for Liberia.—The haberdasheries imported to Liberia include pins, collars, cuffs, neckties, handkerchiefs, suspenders, needles, toys, etc. The total amount imported in the quarter ended December 31, 1903, was 253 cases, valued at \$7,987; of this \$5,781 was from England, \$1,533 from Germany, and \$673 from other countries, including the United States. The Liberian is very fond of adornment and makes use of about all the kinds of haberdasheries common in the United States. The demand for American-made goods is here, and along this line Americans may increase their trade if they desire.—*George W. Ellis, Chargé d'Affaires, Monrovia, Liberia, November 25, 1904.*

Amendments to Customs Duties of Sierra Leone.—The legislative council of this colony passed an ordinance on November 12, 1904, amending the customs duties ordinance of 1900. The duty on spirits is advanced from 3 shillings to 4 shillings (73 cents to 97 cents) per gallon; on tobacco (unmanufactured) from 4 to 5 pence (8 to 10 cents) per pound; on claret, from 1 to 2 shillings (24 to 48 cents) per gallon, and on all other wines, from 1½ to 3 shillings (36 to 73 cents) per gallon.—*John T. Williams, Consul, Sierra Leone, West Africa, November 21, 1904.*

Venezuelan Cattle for Cuba.—The cattle trade has been afforded greater facilities in the employment of the Norwegian steamship *El Carmelina*, which made a trip from this port December 18 with a shipment of cattle for Cuba. This vessel is specially designed for the carrying of live stock and has made several trips without losing an animal, although its capacity is from 1,500 to 1,800 head.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, December 20, 1904.*

American Shoes Made in Austria-Hungary.—Local dealers are exhibiting and advertising "American shoes." These shoes are manufactured in Hungary and Austria and are a poor imitation of the genuine American product. While the sales may not be very large, the damage to the trade caused by the pseudo American shoe is incalculable.—*F. La Guardia, Consular Agent, Fiume, Hungary, December 12, 1904.*

New Mail Vans on Great Western Railway.—The steamers of the American, Hamburg-American, and North German Lloyd Lines, of which there are five a week calling at Plymouth from New York, land at this port large quantities of American mails. To cope more readily with this constantly increasing traffic the Great Western Railway Company has just completed several new and large-capacity stowage vans, designed and built expressly for the conveyance of the American mails from Plymouth to London and the north of England. The following particulars of the cars have been furnished to me by the division superintendent of the Great Western Company: Length of car from buffer to buffer, 72 feet; width in the clear, 9 feet 9 inches. The cars are open from end to end, and are carried on two 4-wheel bogies. There are three sliding doors on each side of the car, which is lighted with six 2-burner gas lamps. Each car is built to carry about 750 bags of mail.—*Joseph G. Stephens, Consul, Plymouth, England, December 8, 1904.*

Inquiry for Sanitary Closets in Peru.—I am asked officially by one of the municipal physicians of Callao to put him in correspondence with firms in the United States dealing in sanitary closets (not of the "desiccating" but of the "pail" system) such as are used with success in the tenement districts of our large cities. Full details and estimates, together with illustrations, if possible, should be sent to Dr. Castro Gutierrez, Medico Sanitario, Callao, Peru.—*A. L. M. Gottschalk, Consul, Callao, Peru, November 28, 1904.*

New Disease of the Peanut.—According to a communication of Mr. A. Karosek to the journal *Gartenflora*, a new disease of the peanut plant has shown itself in German East Africa. The peanut is among the most important cultivated plants there, and has been so far especially recommended on account of its relative freedom from disease. It mainly suffers from a fungus which causes reddish-brown spots upon the plants, which afterwards change to black. The disease occurs wherever peanuts grow, but does not kill the plant elsewhere. The new disease observed by Mr. Karosek in the vicinity of Tanga,

and which is also said to exist at Lindi, results in a rapid dying out of the plant. It shows itself in a retarded growth of the leaves, flowers, and fruit; and the leaves, in addition, show irregular white spots, which ultimately change to brown and black. The cause is yet unknown. The fungus which may be responsible has not yet been found, neither on the roots nor on the diseased leaves or flowers. It is possible that the disease, like the mosaic disease of the tobacco plant, which it resembles, is due to bacteria. The peanut plant has still another enemy in a root louse, concerning which no close research has yet been made.—*Richard Guenther, Consul-General, Frankfort, Germany, December 14, 1904.*

Packing Goods for South America.—I would call the attention of American firms which export merchandise to Colombia to a method of packing goods practiced frequently by many European and a few American houses. In order to make the duty, which is paid on the gross weight, as low as possible, light trunks and boxes, which can afterwards be readily sold for a low price, are used. Some European firms are using basket trunks of various sizes and large baskets. These are light and unbreakable, and when filled with goods subject to high duty many dollars are saved on each package. Our merchants, while showing some improvement, do not yet pack goods properly for South American countries. Not long ago a merchant here showed me a quantity of leather revolver cases which were packed in a box made of very heavy wood.—*Clair A. Orr, Consul, Barranquilla, Colombia, December 10, 1904.*

Purifying Microbe.—A discovery, it is announced, has been made by Mathew Neilson, a Glasgow man, now residing in Florence, Italy, of a microbe which he asserts destroys all zymotic germs in drainage. Further particulars are not yet forthcoming.—*Frank W. Mahin, Consul, Nottingham, England, December 17, 1904.*

Iron-band Pavement.—The periodical Bitumen, of Wiesbaden, reports a new pavement, which is said to possess especially fine qualities. The main feature of the invention is that artificial stones of concrete are held together by iron bands, which accounts for the name "iron-band pavement" (*Eisenbandpflaster*). This pavement is said to excel in quality and durability others twice as expensive. If a street contains car lines joining stones are laid along the rails, which guarantees a lesser deterioration of the rails and an easier motion of the wheels of vehicles. The material for this pavement can be furnished cheaply, as all sorts of stones, even used-up ones, granite chips, and

similar material in broken pieces, can be used. The required sand and cement, as well as the simple iron construction, is also easily and cheaply obtained.

The stones can be manufactured in summer or winter; all that is necessary is to allow the cement to harden sufficiently. A good pavement, such as the new process is said to furnish, it is claimed should be even, but not smooth; as free as possible from grooves, but still not entirely of one mass; durable, easily made, free from dust, cheap, and capable of being used again after having been torn up. The iron bands are 12 centimeters (4.7 inches) high, and are laid upon a concrete layer of from 4 to 6 centimeters (1.6 to 2.4 inches). The new pavement is also recommended for stables, slaughterhouses, sidewalks in smaller cities, etc.—*Richard Guenther, Consul-General, Frankfort, Germany, December 23, 1904.*

Shipbuilding Bonus in Canada.—The bonus of \$250,000 offered by the city of Sydney, Cape Breton, two years ago to any company which will start a shipbuilding industry in the city within three years, is being sought by a company recently formed. This company not only intends to erect a shipbuilding plant capable of turning out one 15,000-ton steamer every year, but will also build a floating dry dock which will hold an 8,000-ton vessel, and keep a wrecking steamer stationed at the port. The matter of granting the bonus is to be considered by the city council of Sydney at a meeting to be held this week. The company guarantees to spend \$1,000,000 before the bonus is claimed, but no provision is made for its property reverting to the city should the plant at any time be closed down through mismanagement or otherwise. The company expects to secure a bonus of \$100,000 from the local government.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, January 10, 1905.*

Danish Egg Trade.—The Frankfurter Zeitung cites the egg trade of Denmark as an example of how, through combination and systematic efforts, an industry may in a comparatively short time become one of great importance. Up to 1867 nobody in Denmark thought of exporting eggs, and very little attention had been paid to the raising of poultry. From that time on efforts in this direction were made with surprisingly good results, and in 1895 a company for the export of eggs was formed. In 1896 the value of exported eggs was nearly \$2,000,000, and reached \$6,000,000 in 1902, the number of eggs exported in the latter year being 36,000,000 dozens. The dividends paid to the members of the association were more than \$1,000,000

in 1902. This Danish company has now 33,500 members and 500 local branches, which are under the direction of a central office. Each local branch collects the fresh eggs in its district and ships them to a certain export port. From the moment they leave the collecting district all expenses are defrayed by the company, which also guarantees to the purchasers the fresh quality of the eggs. Each local branch has at least ten members. The eggs collected must be shipped within four days. At the central station the eggs are weighed and divided into groups, of which the lowest weighs 14.3 pounds, the highest 19.8 pounds per 10 dozen. The eggs are also tested as to their freshness and are afterwards packed in pine boxes, which bear the mark of the company, the number of eggs, and a sign denoting their quality.—*Richard Guenther, Consul-General, Frankfurt, Germany, December 23, 1904.*

American Money in Colombia.—American money is now the basis for nearly all transactions in this part of Colombia. All invoices certified at this consulate are now made out in American money, and it is not at all likely that the Colombian paper currency will ever again be used in invoices.—*Clair A. Orr, Consul, Barranquilla, Colombia, December 12, 1904.*

Turkish Railroads.—The principal railroad lines in Turkey are owned and operated by foreign companies. According to latest statistics the Austrian companies there own 1,264 kilometers (785.4 miles) of railroad. The Smyrna-Aidin Railroad, 516 kilometers (320.6 miles) long, belongs to an English company. German companies own the Anatolian railroad lines of 1,033 kilometers (644.4 miles) and the Salonica-Monastir Railroad of 219 kilometers (136.1 miles). The roads built by the French are the Smyrna-Cassaba line, 518 kilometers (321.9 miles); the Syrian lines, 438 kilometers (272.2 miles); the Junction-Salonica-Constantinople, 510 kilometers (316.9 miles), and the line from Jaffa to Jerusalem, 87 kilometers (54.1 miles). The Turkish Government guarantees a certain amount of income to the owners of these lines; any deficiency in the receipts in operating the roads is to be made up by the Government; thus the latter had to pay on the operations of the year 1903, to the French lines, 11,630,000 francs (\$2,244,590), and to the German lines, 6,460,000 francs (\$1,246,780). The English companies earned enough to cover stipulations, and the Austrian lines worked so well that they had to pay 1,896,000 francs (\$365,928) to the Turkish Government as its share of surplus earnings.—*Richard Guenther, Consul-General, Frankfurt, Germany, December 29, 1904.*

Schoolbooks for Honduras.—Having learned that the Government of Honduras had authorized the minister of public instruction to expend some \$20,000 (United States currency) for schoolbooks, I at once called on the minister and persuaded him to address various American publishers, asking them for prices of text-books in the Spanish language. If replies are favorable they will receive the orders, for which cash payments are to be made. It would be well for publishers who deal in schoolbooks in Spanish to send their price lists, etc., to the minister of public instruction, Tegucigalpa, Honduras, as these first orders will doubtless be followed by others.—*William E. Alger, Consul, Tegucigalpa, Honduras, January 2, 1905.*

Duty Suspended on Maize and Beans in Venezuela.—On account of the increased price of the minor grains raised in the country, owing to the loss of crops for lack of rain, a decree has been promulgated by the Provisional Government, providing that after January 3, 1905, "el maiz, las caraotas y frijoles" (maize or Indian corn, red beans, and French or kidney beans) imported through the custom-houses shall be exempt from duties so long as the Government shall deem necessary, of which determination there shall be forty day's notice given.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, January 5, 1905.*

Projected Pulp Plant in Canada.—Information from Newfoundland states that the Harmsworths, of the London Daily Mail, have closed a deal with the Timber Estates (Limited), of Newfoundland, and the government, by which they will erect a \$4,000,000 plant and ship from Lewisport one shipload of paper and pulp every week. Sir Edward Harmsworth declares that a fast steamer can make the run from Lewisport to Queenstown in three days, and that the Newfoundland government will probably subsidize the project.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, January 10, 1905.*

Duties on Parcel Post Imports into Guatemala.—The Government of Guatemala has rescinded the order imposing a 50 per cent additional duty on all articles sent into the country under the parcel post regulations existing between the United States and Guatemala.—*Alfred A. Winslow, Consul-General, Guatemala City, Guatemala, December 28, 1904.*

Number of Foreigners in China.—The Frankfort News states that, according to the latest statistics, the number of foreign commercial firms in the principal treaty ports and in the large cities of China

open to foreigners was 1,297, and the number of foreigners residing there was 20,560. England heads the list with 420 firms and 5,662 persons; Japan comes next, with 361 firms and 5,287 persons. These two countries have three-fifths of all foreign houses in China and more than half of all foreign residents. Germany has 159 firms and 1,658 persons. The United States has only 114 firms but 2,542 persons. France comes fifth, with 71 firms and 1,213 persons. That Portugal, in the number of Portuguese, 1,930 residents, exceeds even Germany, is accounted for by her possession of Macao; the number of Portuguese firms is only 45. Spain has 39 firms, Russia 34, Italy and Austria 18 each, the Netherlands 15, Denmark 10, Norway 7, Belgium 3, and Sweden 2.—*Richard Guenther, Consul-General, Frankfort, Germany, December 23, 1904.*

Belgian Railway Material for Argentina and England.—Large orders for railway material and structural iron have been placed in Liege by firms in Argentina. They are divided among four of the principal mills here and are being expedited as rapidly as possible. These, as well as other outside orders, have encouraged the manufacturers of steel and iron material to improve their works, and to replace old plants with modern, up-to-date machinery of extended capacity and capable of meeting demands for quick delivery. Two important steel works of Liege are at present working on an order of 6,800 tons of street rails for tram cars for English firms.—*James C. McNally, Consul, Liege, Belgium, December 29, 1904.*

Inquiry for Heating, Cooking, and Hot-Water Appliances, Scotland.—Mr. John Devlin, governor of the Combination Poorhouse, Dunfermline, Scotland, under date of December 26, 1904, states that alterations are to be made and asks me to obtain for him catalogues from American makers of steam-heating, steam-cooking, and hot-water heating appliances.—*J. N. McCunn, Consul, Dunfermline, Scotland, December 27, 1904.*

Unemployed in Europe.—A German paper states that during the month of November the number of unemployed persons increased largely in France and England, especially in the latter country, where in 35 municipal districts 390,822 persons were out of work or in want. The number of the unemployed working people in the city of London is estimated to be over 200,000. In many trades wages have been reduced. Large subscriptions are now raised in London to provide food for the poor and unemployed. The high price of bread and meat makes the condition of the working classes

all the harder. An interpellation in the French Chamber of Deputies has produced the statement that in 1904 there were about 10 per cent fewer people employed in France than during the year before. As there are about 5,500,000 industrial workers in that country, this percentage would show over a half million unemployed.—*Richard Guenther, Consul-General, Frankfort, Germany, December 30, 1904.*

Inquiry for Textile Machinery in China.—In a recent conversation, the viceroy of the Liangkiang provinces informed me that he was much interested in American machinery and especially that for the manufacture by hand or steam power of tape, braids, embroidered and plain ribbons, etc., and he requested me to secure for him catalogues and other particulars regarding such machinery manufactured in the United States. It is apparently his intention to endeavor to introduce this machinery here on a large scale. Catalogues, etc., can be transmitted to this office in duplicate and one copy will then be transmitted to the viceroy.—*Wilbur T. Gracey, Vice-Consul in Charge, Nankin, China, December 14, 1904.*

French Bank in Liberia.—The French Banking Corporation has secured quarters in Monrovia, and has informed the Government of Liberia that it is ready for the transaction of business. The introduction of this bank is very significant. It promises to afford great advantages to foreign and local merchants in effecting exchanges and commercial transactions. A great effort is being made to place Liberian finances on a sound and stable basis, and it is the opinion of many that this bank is to play an important part in the future history of the Republic.—*George W. Ellis, Chargé d'Affaires, Monrovia, Liberia, December 16, 1904.*

German Embassy to Abyssinia.—It is stated that the German Government has sent a special embassy to Emperor Menelik. This embassy, which forms quite a brilliant assemblage of diplomats, soldiers, and officials from various departments of the German administration, is expected to bring the two empires into closer relations, diplomatically and commercially. Very likely a trade treaty will result from the expedition. Abyssinia is looked upon as a land of promise for the future, after its agricultural and mineral riches have been opened by means of foreign enterprise and skill. Germany means to be on hand and fully prepared to take her share in the exploitation of this Ethiopian empire.—*Richard Guenther, Consul-General, Frankfort, Germany, December 29, 1904.*

World's Lead Output.—Under date of January 13, 1905, United States Consul Abraham Smith, of Victoria, British Columbia, transmits the following statistics:

The United States still leads the world in the production of pig lead. The production of the world, according to the latest reports obtainable, in English tons, during the years 1901, 1902, and 1903 was as follows:

The world's production of lead in 1901, 1902, and 1903.

Country.	1901.	1902.	1903.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
United States.....	260,069	259,780	266,691
Spain.....	166,792	174,936	172,521
Germany.....	118,862	136,703	141,556
Australia.....	95,000	104,000	93,500
Mexico.....	85,000	95,000	95,000
England.....	85,134	25,504	30,856
Italy.....	25,415	25,350	22,239
France.....	20,690	18,522	19,500
Belgium.....	18,444	18,050	20,015
Greece.....	17,502	13,840	13,075
Austria-Hungary.....	12,009	13,307	13,853
Turkey.....	2,200	8,622	7,493
Canada.....	10,300	8,335	8,121
Japan.....	4,000	4,000	4,000
Sweden.....	968	826	661
Russia.....	400	300	400
South America.....	2,125	225	150
Africa and East India.....	100	100	165
Total.....	875,000	902,400	910,000

Mexico City-St. Louis Express Train.—A new double daily express train service has been inaugurated by the Mexican National Railway from Mexico City to St. Louis by way of Monterey and Laredo, in connection with the International and Great Northern Railroad and the Iron Mountain Railroad. Two trains leave Mexico City daily and two arrive daily from St. Louis. I am informed that the time has been shortened nineteen hours between Mexico City and St. Louis and that the run is now made in three days. These trains are of the most modern sort, and will, without doubt, become very popular with the traveling public. This new service is destined not only to increase travel between Mexico and the United States, but trade in general, for it gives to Mexico two more fast mail trains daily.—*Philip C. Hanna, Consul-General, Monterey, Mexico, January 14, 1905.*

Projected Swedish-Argentina Steamship Line.—A new steamship line, the Nordstjerna, is projected in Sweden to run between that country and Argentina. The chamber of commerce of Stockholm has petitioned the Swedish Government to grant a monetary subvention to this new line for the next six years.—*Richard Guenther, Consul-General, Frankfort, Germany, December 28, 1904.*

Monterey-Matamoros Railway.—The new line of the Mexican National Railway, now building from Monterey to Matamoros, Mexico, is running three trains in each direction weekly as far as Los Aldamas. I am informed that the road between Los Aldamas and Matamoros will be completed within sixty days, and that it is the purpose of the company to run a daily passenger train in each direction between Monterey and Matamoros.—*Philip C. Hanna, Consul-General, Monterey, Mexico, January 14, 1905.*

Improving the Welland Canal.—Under date of January 12, 1905, United States Consul-General Holloway, of Halifax, Nova Scotia, reports that a quarter of a million dollars will be spent for improvements on the Welland Canal this winter. Several bridges are to be rebuilt, and the canal is to be lighted by electricity, lights being placed every 200 feet.

Hungarian and Russian Exports of Poultry Products.—Hungary's exports of poultry products (fowls, eggs, and feathers) for the year 1903 amounted to 65,405,000 crowns (\$13,277,215). These exports have more than doubled in value within twenty years. Germany is the chief customer for Hungary's poultry products, its imports in 1903 amounting to \$6,090,000. Austria and England are the next largest customers. Russia's export of eggs in 1903 amounted to \$26,265,000, which exceeds that of the preceding year by about 20 per cent. Germany, Great Britain, and Austria were the principal customers.—*Richard Guenther, Consul-General, Frankfort, Germany, December 28, 1904.*

Swedish - Argentina Steamship Subsidies.—Another Swedish company, intending to establish direct and regular steamship connections between Sweden and Argentina, has applied for subsidies. Taking it for granted that regular and direct transportation facilities would materially promote the export of certain Swedish goods to South America, and especially to Argentina, the Royal Board of Trade has recommended that this steamship company shall be granted a subvention of 950,000 kroner (\$254,600) on certain conditions. The subsidies are to be delivered in the course of six years, namely, 190,000 kroner (\$50,920) during each of the first two years, 160,000 kroner (\$42,880) during each of the two following years, and 125,000 kroner (\$23,500) during each of the last two years. It is likely that this new line will also tend to increase the Swedish import of grain from South America.—*Robert S. S. Bergh, Gottenborg, Sweden, December 29, 1904.*

Sewerage System for Mazatlan, Mexico.—A telegram was received last evening by the municipal president of Mazatlan from the newly elected Vice-President of Mexico (Ramon Corral), informing him that he could consider the construction of a sewerage system for the port with the liberal help of the Federal Government assured. The system will consist of a pumping station and pipe line. As there is no factory for pipes in the Republic of Mexico, these will have to be purchased either in the United States or Europe. American manufacturers, should they bid for this pipe, must bear in mind that the item of freight is largely in favor of the European.—*Louis Kaiser, Consul, Mazatlan, Mexico, December 29, 1904.*

An edict has been issued by the governor pro tempore of the State of Sinaloa authorizing Mr. Chousal, as the representative of Mazatlan, to accept the contract or contracts, published in the capital of Mexico, between the secretaries of the state and of the treasury and of communications and public works of the first part and the representative of the "Fundición de Sinaloa" (Foundry of Sinaloa) of the second part, for the construction of a system of sewerage for the city of Mazatlan. Work will be commenced at once and pushed as fast as possible. Inquiries relative to materials or contracts for this work should be promptly addressed to the "Fundición de Sinaloa," Mazatlan, Mexico.—*Louis Kaiser, Consul, Mazatlan, Mexico, January 9, 1905.*

Peruvian Duties on Electric and Gas Equipments.—The Department of Commerce and Labor is indebted to the courtesy of the New York Commercial for the following information, received from its correspondents in Peru, relative to the duties imposed upon electric and gas equipments imported into that Republic:

Description.	Minimum valuation per 2.2 pounds.	Rate of duty.	Duty per 2.2 pounds.
	Dollars.	Per cent.	Cents.
General supplies, such as circuit breakers and fuses, circuit makers, keys, plugs, and electric switches of all kinds and types having china bases and tops.....	.60	40	24
Do., with china bases and metal tops.....	1.00	40	40
Do., with slate or marble bases, with or without tops.....	1.50	40	60
Glass insulators, gross weight.....	.07	40	28
Insulators, of clay and pottery ware, not over 0.03 meter in circumference, with or without pins, gross weight.....	.30	40	12

American Steel Rails in Canada.—During the last two months the Canadian Pacific Railway Company laid 60,000 tons of steel rails. The hurry was prompted by the duty of \$7 a ton to be imposed on foreign rails entering Canada, and in order to avoid as much of it as possible the company had to engage extra gangs of men and keep them working against the coming of winter. The rails were ordered in the United States for prompt shipment. Delivery began late in October, and at once 100 gangs of men were placed at work, distributed over the entire line.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, January 12, 1905.*

Test for Foreign Firearms Returned to Liege for Repair.—A recent decision of the tribunal in Liege, requiring tests of all foreign firearms introduced into Liege for repair, establishes a regulation which may be of interest to American dealers importing from this city. A manufacturer here received from Germany for repair firearms which had been taken apart, whether to facilitate shipping or with attempt to deceive is not stated. They were duly repaired, put in order, and returned to Germany without having undergone the usual and required test given to new firearms. The manufacturer having been called to account contended that the requirement did not apply, the firearms not being new. The court, however, held that the matter was one for proper investigation and appointed an expert to pass upon the arms. The expert declared that they were practically new, and therefore came within the provisions of the law requiring firearms to pass the official test. The report was approved, and the manufacturer was fined 300 francs (\$57.90), and censured by the court. This has been a mooted question for some time, and the decision is declared to be one of importance.—*James C. McNally, Consul, Liege, Belgium, January 10, 1905.*

Items from Transvaal Blue Book.—The number of applications for letters patent to the Transvaal made by parties in the United States was as follows for the years named: 1894, 11; 1895, 23; 1896, 17; 1897, 27; 1898, 18; 1899, 14; 1900, 15; 1901, 35; 1902, 46; 1903, 70, and in 1904 for the six months ended June 30, 36.

Five citizens of the United States have become naturalized British subjects since the enactment of the Transvaal naturalization ordinance in December, 1902.

According to the Transvaal "town police returns" for the year ended June 30, 1904, there were 5,553 persons convicted, of whom 143 were American citizens.—*J. E. Proffit, Consul, Pretoria, Transvaal, December 22, 1904.*

Insurance Companies in Chile.—Under date of December 16, 1904, United States Vice-Consul R. S. Atkins, Valparaiso, Chile, transmits a printed translation of the deposit and taxation law affecting insurance companies operating in Chile, which is on file in the Bureau of Statistics, Department of Commerce and Labor, where it may be inspected by interested parties. A full report on this law from Consul Mansfield, of Valparaiso, was printed in the Monthly Consular Reports for September, 1904.

Opportunities for Contractors in Canada.—The Dominion department of public works, Ottawa, invites tenders for work and supplies in establishing the postal pneumatic-tube systems for Montreal and Toronto as follows: For laying and jointing in the city of Montreal 4,000 linear feet double line of smooth-bored cast-iron piping, to be supplied by the government, and for furnishing, installing, and erecting all the necessary special castings, elbows, and fittings, including the terminal receiving and transmitting machinery and carriers; for laying and jointing in the city of Toronto 18,000 linear feet of double line of smooth-bored cast-iron piping, to be supplied by the government, and for furnishing, installing, and erecting all the necessary special castings, elbows, and fittings, including the terminal receiving and transmitting machinery and carriers.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, January 26, 1905.*

Creameries in Quebec.—The port of Three Rivers has just established a wholesale market that promises to do much for the development of the international trade in butter and cheese that has hitherto been carried on here to some extent in connection with the lines of the Canadian Pacific Railway. A rich agricultural region centers around this point, and constitutes one of the principal sources of supply of both these articles for the Canadian market and export. Over two hundred creameries joined the association called the Three Rivers Butter and Cheese Board at their meeting held on December 20, 1904. There is scarcely a parish in the province of Quebec that does not have a dozen or more creameries.—*James H. Worman, Consul, Three Rivers, Quebec, January 31, 1905.*

American Catalogues Wanted in Formosa.—Under date of January 9, 1905, United States Consul Fred D. Fisher, Tamsui, Formosa, reports that inquiries have recently been made at his office for catalogues of American manufacturers of boring machinery for sinking petroleum and artesian wells and of accumulators and second batteries

for telephone and telegraph lines. The consul adds that if manufacturers of these lines will furnish him with their catalogues he will see that they are placed in the hands of the inquirers.

New Asbestos Fields, Canada.—Under date of January 31, 1905, United States Consul James H. Worman, of Three Rivers, Quebec, reports that good samples of asbestos have been found in the country west of Lake St. John, Province of Quebec. Asbestos has hitherto been an important output from the district invoicing at the consular agency at Victoriaville.

Tobacco in the United Kingdom.—Under date of January 9, 1905, United States Consul-General H. Clay Evans, London, England, transmits the following statement of the imports, exports, and home consumption of tobacco in the United Kingdom for the eleven months ended November 30 of each of the years 1902, 1903, and 1904, quoting from the board of trade returns:

Imports, exports, and home consumption of tobacco in the United Kingdom for eleven months ended November 30 of each of the years 1902, 1903, and 1904.

Eleven months ended November 30—	Imports.	Exports.	Home consumption.
1902.	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Unmanufactured.....	115, 775, 464	6, 207, 724	72, 939, 629
Manufactured.....	5, 178, 054	988, 934	2, 886, 146
1903.			
Unmanufactured.....	74, 072, 700	5, 072, 704	74, 090, 672
Manufactured.....	4, 634, 614	692, 865	2, 566, 409
1904.			
Unmanufactured.....	98, 307, 600	4, 127, 683	75, 911, 879
Manufactured.....	3, 871, 408	644, 032	2, 271, 771

State Aid to Agriculture in Great Britain.—The British Board of Agriculture is doing good work in promoting practical education in the principles of farming and research work in field and laboratory. Grants in aid of these objects have been made annually since the board was created in 1889, but recently they have been much increased and extended. It was not until 1903 that the scope and importance of the work were enlarged to the present degree. The president of the board is now a cabinet minister. In 1904 British educational institutions received nearly \$50,000 for farm studies, and special grants, aggregating several thousand dollars, were made to various agricultural and industrial societies. Dairying and sheep raising are receiving special attention, and some important results recently have been attained in curing or preventing diseases peculiar to sheep.—*Frank W. Mahin, Consul, Nottingham, England, January 10, 1905.*

Canadian Bank Statement.—The changes shown by the November bank statement were, for the most part, insignificant. One movement of note, however, was the increase in amounts due from banks in the United Kingdom, the enlargement in the year in these balances having been \$11,260,800, namely, from \$25,242,400 to \$36,503,200. A large expansion of trade is indicated by the discounts, which increased during the year nearly \$35,000,000. During five years the current loans and discounts increased almost \$140,000,000, or over 50 per cent. The expansion in deposits has kept pace with this movement, for in the same period the deposits increased over \$175,000,000.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, January 13, 1905.*

Motor Cars in Great Britain.—The expert writer on patents for Whitaker's Almanac for 1905 makes the interesting observation that "the present trend of invention in this country is undoubtedly in the development of motor cars, oil engines for driving them, and in speed gears, speed indicators, and other accessories." This fact is given added importance by a new order of the local government board increasing the maximum limit allowed for an unladen motor car to 5 tons and to 6½ tons, including trailer, whereas formerly the weight allowed the car was 3 tons and with trailer 4 tons. The total weight of car and load is limited to 12 tons. These new regulations, which will come into force March 1 next, practically relate to freight motor cars only, and not to passenger and pleasure automobiles. Liverpool is the headquarters of the movement for the use of freight motor cars to compete with railroads. Heretofore the limit allowed for the weight of the cars and the load has handicapped the movement, but the new regulations are expected to give a great impetus to the development of the freight motor-car industry. And here would appear to be an opening for American inventors and manufacturers in this line.—*James Boyle, Consul, Liverpool, England, January 6, 1905.*

European Postal and Telegraph Services.—The numbers of pieces mailed in Germany, England, and France were 6,894,899,000, 4,251,709,000, and 2,849,577,000, respectively. Per capita, the highest numbers of pieces mailed were as follows: Switzerland, 130; Germany, 114; the Netherlands, 86, and France, 83. In the telegraphic service Germany ranks fifth, with 67 messages to every 100 inhabitants. The countries which surpass Germany are England, 214; France, 114; the Netherlands, 78; and Switzerland, 72—messages each for every 100 residents. The German post-office at the end of the year enjoyed a surplus of 61,449,981 marks (\$14,624,095), being surpassed

only by England, which had a surplus of \$20,088,947. In France the surplus amounted to \$14,063,519.—*E. Theophilus Liefeld, Consul, Freiburg, Germany, December 31, 1904.*

Macaroni in Canada and the United States.—French and Italian parties contemplate manufacturing in Canada, on a large scale, all kinds of pastry food, but particularly macaroni. As the present output of macaroni in the United States consumes 3,000 barrels of flour daily, such a project should have the attention of those engaged in the milling industry.—*James H. Worman, Consul, Three Rivers, Quebec, January 31, 1905.*

Cable Rates in Canada.—The Dominion minister of railways has announced that the government has given the Anglo-American Cable Company \$5,000 increase in subsidy for an improved cable service between Prince Edward Island and the mainland. By the agreement the company has reduced its rates on messages from points in Prince Edward Island to Nova Scotia, New Brunswick, Quebec, and Ontario from 50 cents to 30 cents for 10 words, and from 3 cents to 2 cents for each additional word. A proportionate reduction is made for press messages. Rates to Manitoba, British Columbia, the territories, and the United States are reduced from 50 cents to 25 cents for 10 words, and from 3 cents to 2 cents for each additional word. To this the rates of connecting lines must be added under the new agreement.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, January 24, 1905.*

Improvements in Cyprus.—The new harbor works at Famagusta have been finished, but they are not considered sufficient, and it has been decided to considerably deepen the harbor so as to admit large ships. The railroad line between Famagusta and Nicosia is well on the way to completion. Famagusta enjoyed great importance in the Levant during the middle ages, but since its capture by the Turks in 1551 it has been an utterly dead city.—*G. Bie Ravndal, Consul, Beirut, Syria, December 28, 1904.*

To Shut Out American Lumber from British Columbia.—Under date of January 26, 1905, United States Consul L. Edwin Dudley, of Vancouver, British Columbia (at home on leave at Ridgewood, N. J.), transmits the following: Early in December last most of the sawmills at Vancouver and in the vicinity closed down. They have now all resumed operations, and it appears that market conditions have considerably

improved. The lumbermen of British Columbia have recently sent a strong committee to Ottawa to urge the Dominion government to adopt an "order in council" placing a duty of \$2 per thousand feet upon all lumber imported. This is to cut off the supplying of lumber to the people upon the great plains of Manitoba and the Northwest territories by the lumbermen of the northwestern portion of the United States. I am further informed that the settlers upon the treeless plains of the great Canadian wheat-growing country have also sent a delegation to Ottawa to resist the imposition of a duty upon lumber. The contest between the two conflicting interests promises to be very earnest.

Telegraph Lines in Southern Nigeria.—Under date of January 2, 1905, United States Consul Liefeld, Friburg, Germany, transmits the following extract from the Paris edition of the New York Herald of December 31, 1904:

An important extension of telegraphs is about to be made in southern Nigeria, says Reuter. The work, which will be commenced at an early date, will occupy about a year, and involves the laying of 400 miles of wire. Starting from a point on the Calabar-Bonny system, the line will strike inland to Onisha, on the Niger, and will continue west across that river to Benin. From that point it will turn south to Wari, and be taken across to Lagos. At present there are no lines in the interior of southern Nigeria, but when the work now about to be taken in hand is complete a great portion of the known part of the British protectorate will be tapped. At Lagos the new line will join the interior telegraph, which at present extends to Kano and is being pushed on to Sokoto.

Increased Import Duties in Colombia.—Acting Secretary of State, Mr. Loomis, under date of February 2, 1905, informs the Department of Commerce and Labor that a cablegram has been received from the American minister at Bogotá stating that an Executive decree has been issued by virtue of which the import duties of Colombia have been increased 70 per cent over those of the tariff now in force, and that the law of 1886 governs the classification.

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HAMBURG BOURSE.^a

(From United States Consul-General Pitcairn, Hamburg, Germany.)

EARLY BOURSES.

Many years farther back than the fourteenth century Bruges was the commercial headquarters of trading peoples, not less than 16 States having their factories there. Following the establishment of the bourse at Bruges, others were organized in European trade centers—at Antwerp in 1531, at Toulouse in 1549, at Rouen in 1556, at Hamburg in 1558, at London in 1566, at Bourges in 1570, at Amsterdam in 1586, at Copenhagen in 1622, and at Paris in 1645.

In 1558 the city council of Hamburg assigned to the Hamburg merchants, free of charge, a piece of unimproved property, for the purpose of erecting thereon a bourse. It was stipulated that neither exchange banks nor retail counters should be allowed on the place. The costs were raised by subscription among the merchants.

TRADING HOUSES OF ANCIENT HAMBURG CORPORATIONS.

Prior to the establishment of the Hamburg bourse, several of the mercantile corporations had their special meeting places. It is supposed that as far back as the thirteenth century there existed here a factory of Flanders merchants; the Society of the England Tradesmen possessed their own trading house; also the so-called "Schonenfahrer," the "Schiffergesellschaft," the brewers' association, and probably the grocers had their special places for coming together. The cloth dealers had in almost all German cities, including Hamburg, their cloth halls, and the corn dealers and money changers had their own meeting places.

During the Middle Ages the commerce in the north German cities was controlled by three classes of tradespeople: The grocers (Krämer), merchant tailors (Gewandschneider), and the "common merchants" ("der gemeine Kaufmann"). Being mentioned separately, the grocers

^aThis report was prepared at the solicitation of the superintendent of the Maritime Association of the port of New York, Mr. A. R. Smith.

undoubtedly did not figure as a part of the body of merchants. The "Gewandschneider" carried on the retail business in cloth and woollens, and the "Krämer" retailed spicery and grocery wares. The "gemeine Kaufmann," was composed of the unions of the "Flandernfahrer," the "Englandfahrer," and "Schonenfahrer"—merchants trading with Flanders, England, and Sconia—to whom might further be added the Iceland and Bergen "Fahrer."

HAMBURG'S FIRST BOURSE.

The bourse, established in 1558-1560, was a shelterless, paved meeting place, 112 feet long and 42 feet wide, supported toward the water front by means of bulwarks, and having its three other sides surrounded by a low stone wall. In 1577 the bourse was enlarged by adding a cloth hall, supplied with a roof. In 1669 it was again enlarged by an annex across the adjoining canal. The cloth hall had an upper story, equipped with twelve pairs of windows, and two halls, the so-called bourse hall (Boersenhalle), 40 feet long by 25 feet wide, and a smaller hall; also two smaller rooms. The Boersenhalle served as an assembly room for the merchant tailors. The second annex had no upper floor, and only a flat, copper-sheeted roof, and walls on three sides. Thus originated the peculiar mixture of pillars, columns, trees, windows, framework, and brick walls later called "the old bourse."

In the beginning small and uncomfortable, from time to time extended according to exigencies, the bourse gradually increased in accommodations with the commerce of Hamburg. In the sixteenth century an unsheltered place, surrounded by low walls; in the seventeenth century having a roofed passage, but all sides open and inadequately protected against rain and snow; in the eighteenth century again enlarged threefold, and giving shelter at least to the majority of the attendants—the whole concern did not suffice in the nineteenth century to accommodate a moiety of the merchants. The Hamburg merchants erected the bourse of 1558, the building of 1577 was erected by the woolen drapers, and the municipality built the bourse of 1669.

FIRST HOUSED BOURSE OF HAMBURG.

In the beginning of the nineteenth century, the old bourse having proven entirely inadequate, the plan to erect a housed bourse on Adolfsplatz was matured after deliberations extending over several years, between the merchants and the board of trade (Commerz-Deputation) and the senate of Hamburg. The memorial plate affixed to the foundation stone of the new building had the following text:

On this spot in 1327 Count Adolph of Schaumburg, Hamburg's benefactor, founded a church and convent in honor of the Holy Maria Magdalen. It having become necessary to demolish the church for want of repair, and Hamburg's charity having otherwise provided for the benevolent institution which took the place of the convent, and the site having been assigned to the State, a new bourse was erected for

the benefit and advancement of commerce by resolution of the senate and house of burgesses of October 27, 1837, upon the desire and through the active cooperation of the Hamburg body of merchants, because the old, venerable bourse near the city hall no longer met the growing necessities of the commerce of Hamburg, increasing by the Lord's blessing.

This building, although since considerably enlarged, is still in use for the purpose for which it was intended. It was erected after the plans of City Building Master Wimmel and Building Inspector Forsmann, and was originally 249 feet long by 178 feet wide. From the fire lasting from May 5 to May 8, 1842, which laid waste nearly the entire old city, and to which, among many other public buildings, the old bourse fell a victim, the new bourse was saved, besides a few houses in its vicinity. In the course of reconstructing the city the erection of arcades on both sides of the bourse was projected, but they were completed in 1845 on the east side only. On the space between the bourse and the arcades a plateau was built and used in connection with the bourse. In 1856 this space was covered by a glass roof and closed by means of two front walls. The arcades were fitted with offices below and halls above. The latter, intended for auctions, proving unsatisfactory, were used for a public picture gallery, and later for the Commercial Library, which purpose they still serve. In 1879 it again became necessary to enlarge the bourse, and the building of the annex toward the Alterwall, occupying about 8,600 square feet, was commenced in 1882 and opened July 14, 1884. The expense was paid from the funds of the old Bank of Hamburg. The bourse has not been enlarged since, and the entire area now in use covers about 90,280 square feet.

DEVELOPMENT OF THE BOURSE.

Commercial intercourse underwent a material change in the latter part of the Middle Ages by the introduction of letters of exchange. The disagreeable carrying of cash became unnecessary by the use of bills of exchange on London bought in Hamburg, and vice versa. This system enabled merchants to remit any amounts to any distance, at fixed terms, and long journeys became unnecessary by the substitution of orders by letter. These accumulated so considerably that it became desirable for merchants to gather together daily and regularly to render possible by verbal interview the necessary expedition of commercial traffic. Thus the establishment of a bourse became an urgent exigency. The association's chief interests herein were the "Flandernfahrer," "Englandfahrer," "Schonenfahrer," the brewers, and the shipowners. The "gemeine Kaufmann" (body of general merchants), at the end of the fourteenth century, was composed of the members of the associations of the "Flandernfahrer" and "Englandfahrer." Later, on account of the increase of the herring

trade, the "Schonenfahrer" joined as the third corporation, and still later the brewers, who were partly considered merchants, and also the shipowners. These five corporations formed in 1558, at the time of the establishment of the first bourse, the body of general merchants in Hamburg. The traffic on exchange gradually increased.

The various purposes served by the bourse at the beginning of the nineteenth century, described by J. L. von Hess in his description of Hamburg, published in 1811, were as follows:

It was a time that one met here people of every European nation in conference with one another, so that undoubtedly no area of 11,000 square feet could be found anywhere else on which so many men jostled and crowded together. The twelve double pillars in the interior (of the bourse) are covered with all kinds of notices, of arrivals of mails, lists, notices of auction sales, catalogues, brokers' lists, lottery plans, etc. The exchequer affixes notices of public sales and tenders: private persons offer their services as linguists, clerks, copyists, etc. On one of the pillars hangs a board with the names of bankrupts and announcements on behalf of creditors of proceeds from bankruptcy estates required to be posted for thirty days. Beside this board there are two other blackboards—the merchants' and the brokers' board. Within the covered bourse are two booths with glass windows, in which can be found ink and sand box for hurried writing. In the evenings the bourse is made use of as a place of promenade and is lighted by six lamps. The ground is paved by broad stone plates, in winter covered with boards. The hall of the bourse is generally used for public auction sales, for which purpose it is leased by its owners, the woolen drapers. One of the side rooms is fitted up for the captains of the militia for assemblies concerning important military affairs.

THE PRESENT BOURSE OF HAMBURG.

The bourse of Hamburg differs in many respects considerably from American and other foreign exchanges. No membership exists here, but attendance and admittance to all privileges of the floor free of charge is permitted to every respectable male person. Excluded from attendance during exchange hours are: (1) Females, (2) disfranchised citizens, (3) persons legally restricted as to free disposition of their property, (4) persons legally convicted for bankruptcy, (5) insolvents, (6) persons excluded from the attendance of the bourse through judgment by a court of honor, and (7) persons who have failed to pay disciplinary or expiatory penalties.

- Although the bourse is open all day, exchange hours in the rooms used for the general traffic are from 1.30 to 3 p. m. on week days, except Saturdays, when they are from 1 to 2.30 p. m. During the hours from 1.45 to 2.15 (Saturdays from 1.15 to 1.45) p. m. the bourse can only be entered by payment of a fee of 7 cents—the so-called "Boersensperre." On Sundays and legal holidays transaction of business is prohibited in all departments.

The Hamburg Chamber of Commerce, or Board of Trade, which is a semiofficial institution here, and which has its offices in one part

of the upper story of the building, possesses police power within the bourse. The board is authorized to issue regulations for the maintenance of order and for traffic on exchange, and exercises general supervision.

The bourse forms a meeting place of the local merchants of all branches, and unites in a way the coffee, produce, sugar, cotton, and stock exchanges. There are special corporations of merchants dealing in grain, spirits, coffee, sugar, and cotton, but each is a union or association in itself, with complicated statutes and by-laws for the regulation of trade usages, and members naturally pay initiation fees and membership contributions. Of these the firms interested in cotton, sugar, and coffee hold separate exchanges, besides the attendance of their members at the general bourse. Such separate exchange meetings are also subject to the regulations prescribed for the general bourse.

The approximate daily attendance is from 6,000 to 7,000. Certain separations, although not very strict, of the various branches of business are maintained among the attendants. For instance, there exists in one part of the building a so-called grain exchange; other parts are commonly called the stock exchange, coffee exchange, tobacco exchange, etc. One section is occupied by forwarding agents and another by exporters. Between the arcades on the one side there is the insurance exchange, where transactions regarding vessels of all nations and in all parts of the world are made. The legal profession has daily attendants who have a fixed stand or seat, and the bourse is daily visited by a large number of river-craft skippers. The most of the attendants have fixed stands or seats. For guidance the various pillars and niches are marked by letters and numbers, enabling the easy locating of stands or seats according to the indexed special directory. There are about 1,200 seats in the bourse, which are leased at the rate of \$7.14 each per annum, and 56 offices, the rents for which vary from \$47.60 to \$952 per annum. Most of the offices are not the permanent business quarters of the lessees, but are merely occupied during exchange time for the accommodation of such attendants as require more room than an ordinary seat or stand—for instance, shipowners and brokers, dealers in cereals, coffee, tobacco, etc., for the display of books, quotations, price lists, samples, etc., or the easy access of customers to them.

The revenue consists of the amount received from seat and office rents, fees for announcements within the bourse, rents of cabinets and letter boxes, fees for authentications of certificates, and fees for listing in the registers of the "ehrbarer Kaufmann," all of which receipts pass into the treasury of the chamber of commerce. The annual receipts from admittance fees during exchange hours (Boersen-sperre) amount to about \$6,660, and other fees, such as for posting notices, leasing of cabinets and letter boxes, legalization of certificates,

and fees for registration, amount to about \$3,094. The chamber of commerce also receives from municipal funds an annual appropriation of \$15,470.

The assembly of "ehrbarer Kaufmann" referred to is composed of resident merchants. Every merchant who is a citizen of Hamburg, and whose firm is registered in the official commercial register, is eligible for membership. The annual contribution is a registration fee of 24 cents. Exceptions are provided. This assembly elects the members of the chamber of commerce, and, at the instance of the latter or of its own initiative, discusses matters of interest to commerce and navigation. At the end of every year a meeting of the "ehrbarer Kaufmann" is held, at which the chamber of commerce reports its actions for the past year, and at which its new members are elected.

The organization and management of the chamber of commerce are regulated by the Hamburg law concerning the chamber of commerce and the assembly "eines ehrbaren Kaufmannes" of January 23, 1880 (with amendment of January 11, 1897). For the official business of the chamber of commerce the regulations of June 25, 1897, are in force. The regulations for the bourse of Hamburg of December 23, 1896, have been based on the German bourse law of June 22, 1896. A number of binding and lawful regulations have been issued by the chamber of commerce regarding trade usages; for instance, a tariff for brokers' fees, regulations for sworn gaugers, sworn chemists (with tariff of fees), concerning the appointment of sworn tobacco experts, concerning the measuring and weighing of foreign lumber, for the appointment of sworn measurers, for sworn grain weighers, for the appointment of sworn ship appraisers (with tariff of fees), for nautical experts, and for the appointment of sworn auditors. The chamber of commerce assigns two of its members to the department of commerce and navigation (Deputation für Handel und Schiffahrt), two members to the department of indirect taxation (Deputation für indirekte Steuern), and three members to the department of emigration (Auswanderer Deputation) of the Hamburg Senate. It also attends to the election of experts as prescribed by law. Upon written application, the chamber appoints one or two experts for surveys, awards, and attestations, and also, in case of nonagreement on the part of experts so appointed, appoints an arbitrator. The chamber is also authorized to elect, if practicable, a court of arbitration for the settlement of commercial matters in dispute, and, furthermore, to examine and settle, or pass over to the competent authority, any complaints, propositions, or suggestions filed by local merchants.

The chamber of commerce, as the authority exercising supervision over the bourse, neither collects, publishes, nor issues quotations for the information of the attendants of the bourse. Although a number

of quotations in the chief articles of trade are collected and published by brokers specially appointed, they are in no way regarded as official, and should be treated only as private quotations and market reports. An official exchange list is published daily by the managing board of the department of the bourse for securities, bills of exchange, bullion, and precious metals. The quotations are collected by members of the committee of experts, who are appointed by the managing board for the purpose.

At the end of each year the chamber of commerce publishes a report covering the preceding year, as well as a pamphlet entitled "Commerce of Hamburg in the year —, and reports of exports, issued at the instance of the Hamburg Chamber of Commerce." These two publications may be bought in bookstores at nominal cost. Further publications are not issued by the bourse or the chamber of commerce, and accurate statements or estimates of the volume of business transacted do not exist. Only on the part of the "Warenliquidationskasse," a clearing house forming a guaranty bank for option sales and "futures" in coffee, sugar, and cotton, are statements collected as regards the volume of option business transacted in coffee and sugar. Of the other business transacted no statements can be made. According to the statement of the clearing house, the annual option business transacted amounts to 6,000,000 bags of sugar and 8,000,000 to 10,000,000 bags of coffee, approximately. For the stock exchange business, both cash and option, there exists a similar institution, the "Effekten-Liquidationsbureau," but it is unable to state the volume of business daily or annually transacted on the stock exchange.

A telegraph office is open in the bourse during exchange hours, and there are public telephone rooms which may also be used for long-distance conversations. The public Commercial Library may also be considered as belonging to the bourse. It is located on the upper floor of one wing of the building and is conducted by the chamber of commerce. The basement of the bourse has been leased by the government of Hamburg, partly as a public restaurant and partly to a local wholesale wine dealer for storage of wines and liquors in barrels. The revenue from this source is about \$4,998 per annum. The total value of the bourse building is estimated at \$595,000, and the approximate annual expense for its maintenance and repairs is \$4,760.

THE BOERSENHALLE OF HAMBURG.

An establishment peculiar to the bourse of Hamburg, and which will scarcely be found existing anywhere else, is the subscription institute of the "Boersenhalle." This institution has rented from the chamber of commerce the largest part of the upper floor of the building "to fit up and administer the same in the interest of exchange traffic and of the attendants of the bourse."

The history of the "Boersenhalle" dates back as far as the beginning of the eighteenth century. As the description of the old bourse shows, its accommodations did not at that time do justice to the steadily increasing traffic, and the building was rather uncomfortable quarters for the attendants, who demanded a comfortable and suitably located meeting place before and after exchange. A Hamburg merchant placed at their disposal a building in the center of the city, with a reading room, a billiard room, and rooms for meetings, auction sales, etc. Later a special newspaper, the "Hamburgische Boersenhalle," was established in connection with the institution, devoted chiefly to commercial and trade interests. The Boersenhalle was consumed in the fire of 1842, but the newspaper resumed publication a few days later. Soon after the institute moved into the rooms of the upper floor of the new bourse, which had been completed not long before the fire. From January 1, 1855, the newspaper was issued daily in two editions. In 1868 a number of prominent merchants formed a joint stock company for the continuation of the institute under the firm name of "Actien-Gesellschaft Neue Boersenhalle." This company also took charge of the management of another old local newspaper, the "Hamburgische Correspondent."

The "Boersenhalle" now consists of a large reading room, where almost all the prominent newspapers of the world are kept, besides valuable material for information, such as directories, atlases, statistics, dictionaries, encyclopedias, etc.; a so-called "Warensaal," for the display of samples of all varieties of products of industry; an insurance hall, and a large hall for the stock exchange. These rooms, for which an annual rent of about \$1,904 is paid, serve the members of the institute chiefly as a meeting place before and after exchange hours. They are also supplied with daily newspapers, trade journals, and other current literature and books of information. Political and commercial telegrams and cablegrams arriving from all parts of the world are promptly posted. The institute's department of telegraphy, which regularly receives the telegrams of the Reuter, Havas, Wolff, and other agencies, besides a large number of private telegraphic reports, supplies to the several members, upon special subscription, its ample material, and each firm may subscribe for telegrams of special interest for its line of business alone, or combined with political dispatches. There is also a restaurant under the management of a leaseholder. Although the institute has the character of a merchants' club, it also serves the local stockbrokers and bankers for the transaction of business before official exchange hours as well as for the evening exchange. The institute collects and furnishes to its members quotations in all lines of business and from all important trade centers, besides other information of commercial interest. Such quotations, notices, etc., are posted in its own rooms in the bourse. The annual subscription to the "Boersenhalle" is \$9.52.

INCLOSURES.

I transmit a copy of the "Hamburger Boersenhandbuch," by Dr. A. C. Jürgens, secretary of the Chamber of Commerce of Hamburg, which contains a collection of the laws, rules, regulations, by-laws, tariffs, etc., concerning local commercial requirements and trade usages. I also inclose a photograph of the bourse, a copy of the official exchange list of the Bourse of Hamburg, a copy of the report of the Chamber of Commerce of Hamburg for the year 1903, and a copy of "Hamburg's Commerce during the year 1903" (Hamburg's Handel im Jahre 1903).

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *January 10, 1905.*

ARTIFICIAL SILK.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

I am informed from reliable sources that negotiations have been entered into by one of the German associations to establish artificial silk works in the United States, and it is very probable that their erection will soon be commenced. The shipments of artificial silk to the United States from this consular district amounted to \$138,315 in 1904.

I have taken the following extracts regarding the product from an essay on "Artificial silk," by Mr. Ludwig Braun, of Crefeld, Germany:

For more than one hundred and fifty years efforts have been made to find a cheap substitute for genuine silk. At last cellulose has been found to be suitable for producing brilliant threads of silk-like appearance. The best kind for the purpose is carded cotton, which was used by Count Hilairede Chardonnet, the first manufacturer of large quantities of artificial silk.

German chemists, among them Doctor Lehner, of Augsburg, also have solved the problem of making artificial silk. The chief difference between the processes of Chardonnet and Lehner is that the collodion from which the product is made is of a different character, and that in the process of Chardonnet the collodion is spun dry. Doctor Lehner spins his collodion wet and then lets it dry.

The associated factories of artificial silk of Frankfort-on-the-Main, comprising two factories in Germany and two in Switzerland, which have a community of interest with the Chardonnet factory at Besançon in France, use the process of Chardonnet and Lehner. There is also a company at Elberfeld under the name "Vereinigte Glanzstoff-Fabriken in Elberfeld," which owns several factories in Germany and uses the processes of Dr. H. Pauly, Dr. M. Femery, J. Urban, and Dr. E. Bronnert. The last process differs from the others decidedly. Cellulose is dissolved in ammoniated oxide of copper and is then directly separated from this solution, by means of an acid, in the form of threads.

In order to arrive at a conclusion as to how far artificial silk can replace natural silk in the manufacture of silk goods, it is necessary to compare the physical and chemical qualities of the natural and artificial product. Under the microscope all artificial silks differ from the natural in their greater thicknesses. Tussah silk alone resembles artificial silk. Artificial silks, without exception, possess the quality of at once distending largely in water, which increases their thickness one-third to one-half, while natural silk does not distend perceptibly. This distending seems to be the reason that artificial silk, in a wet state, loses so much in firmness. The artificial silk manufactured by the two associations named shows qualities which come very close to those of natural silk, and excels it in some respects.

The product is of an even white color, of a silky touch, and when pressed together has even some of the characteristic crackle of genuine silk, the so-called silk cry. It greatly excels natural silk in brilliancy. The chief use of artificial silk is in the passementerie industry. For passementerie goods and for trimmings it has proven so suitable that for such purposes it is even preferred to natural silk. For embroidering it is the ideal material; its high luster and adaptability to the form of the embroidery add a most brilliant look to such work. In the manufacture of straw hats artificial silk takes the place of straw. The hats made of it excel the ordinary straw hats in brilliancy. A separate branch is that of imitation human hair, called "meteor," made of artificial silk. Such imitation human hair is as soft as the natural growth and can not be distinguished from it; it is furthermore cleaner and cheaper. The price of natural human hair is often twenty-five times as high as that of the artificial article, and besides, the latter is not so heavy as the former. Artificial silk finds to-day an increasing market even in the silk-producing countries.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *January 11, 1905.*

COMMERCIAL AND INDUSTRIAL GROWTH OF LATAKIA, SYRIA.

(From United States Consul Ravndal, Beirut, Syria.)

We have no consular representative at the seaport of Latakia, and I therefore deem it my duty, as the city is situated within the boundaries of the Beirut consular district, to call attention to its industrial and commercial growth.

GENERAL PRODUCTS OF THE DISTRICT.

Latakia, with a population of about 25,000, is the center of a highly fertile and productive agricultural district, which has lately experienced considerable development. Much good land is, however, still lying idle. Tobacco, olive oil, cotton, licorice root, wool, skins, sponges, honey, soap, and cereals (wheat, barley, and millet) are the main exports. Olive oil, licorice root, and tobacco are beginning to be shipped to the United States, and this trade is likely to increase.

Olive oil is figuring among Syrian exports to the United States as

an item of advancing importance. Its production has increased of late years, and promises to become one of the chief industries of Syria. The olive tree requires but little care, and lives to become very old. In Syria the fruit is knocked off with sticks, and the injury thus caused to the branches probably accounts for the short yield every second year. The plantations are being extended principally in the littoral plains between Jaffa and Latakia, and the finer sorts of oil produced are said to be equal in quality to Italian oil, and to rival the best oils in the markets of Europe and America. Refined olive oil is exported from the American factory at Haifa, while cruder oils in bulk are shipped from Beirut and Latakia to be purified and clarified abroad. Hydraulic oil presses are now being introduced in this country.

LATAKIA AROMATIC TOBACCO.

Latakia tobacco (Abou Riha) is an article of commerce well known in Europe and America. It is black in color, owing to its fumigation by the Nusairieh mountaineers in the smoke of a tree called "elezzer" or "ezr," which imparts to it a peculiar aromatic flavor. This fumigation lasts for from seven to nine months, but only produces the desired effect during the winter and spring, although the tobacco is still fresh and green in summer when it is hung to the rafters for smoking purposes. The "ezr" grows wild, seldom attaining the size of the oak, and gives out its aromatic odor when burned in the green state. It is a native of the Nusairieh Mountains and not found elsewhere, so it is claimed. Last year the Latakia tobacco crop amounted to 6,000 bales, against 8,000 bales for the preceding year. A bale weighs 87 to 92 kilos (191.4 to 202.4 pounds). Most of it goes to England at 14 to 24 cents per pound. It was rumored last year that the American tobacco trust was trying to secure a monopoly of the Latakia tobacco product. It already controls the licorice-root industry in the Latakia and Alexandretta districts. An average crop of Latakia tobacco, as far as it is available for export, is worth about \$350,000.

AMERICAN TRADE OUTLOOK.

It would in my opinion be worth our while to have a consular agent at Latakia (and, by the way, one also in Cyprus), as the country adjacent to the city is capable of great improvement. Soon agricultural and other machinery will be wanted in that region. Petroleum engines and pumps are widely needed. American missionaries have been for thirty years working in Latakia, where they have a high school for boys, a high school for girls, and a hospital (value of property, \$65,000), also in the Nusairieh Mountains. No other missionaries are occupying that fruitful field.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *December 26, 1904.*

CANADIAN TRADE WITH THE WEST INDIES.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The annual report of the Halifax Board of Trade gives the following account of the trade between Canada and the West Indies during 1904:

EXPORTS.

The volume of business in the staple article of fish stuffs has been somewhat less than for 1903, owing to the poor output of the fisheries. During the first half of the year shipments were on the usual scale, being drawn from stocks held over from 1903, but in the latter part the effect of the short supplies was felt. Prices were, on the whole, satisfactory to shippers in spite of the high cost of most grades of fish, although the consumption has been materially curtailed by the increased cost to consumers.

The shipments to the West Indies of agricultural products have been on a fair scale, the quantities of potatoes, oats, pease, flour, etc., affording good cargoes for the various steamers on the route. From several of the islands it is encouraging to note the increased demand for Canadian flour and a general breaking down of the prejudice which existed for so long against Canadian flour as compared with that of American manufacture.

IMPORTS.

Arrivals of sugar from the West Indies show a satisfactory increase. The total quantity landed in Halifax in the year was about 48,000 tons. Of this quantity only one cargo of 2,500 tons was of foreign origin, the remainder being all of British production, a very desirable result, it being to the mutual advantage of the West Indies and Canada that Canada should draw its supplies from the West Indies rather than from Germany, which buys but little from us. Prices for sugar were very low at the commencement of the year, but owing to decreased European crops have advanced largely, and are now on a basis that for the first time for some years shows a good margin of profit to producers.

The imports of molasses show a falling off as compared with the imports of 1903, being 12,800 puncheons, 1,100 tierces, and 2,750 barrels. The stock on hand at the commencement of 1904 was, however, very much larger than at its close. Prices were fairly low early in the season, but in sympathy with the increased value of sugar have advanced materially. On the whole, Halifax held its position as the port of the Dominion, doing by far the largest proportion of the business between Canada and the West Indies.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *January 26, 1905.*

CANADIAN SAVINGS BANKS.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The increase in the Canadian Government Savings Bank deposits for the year ended June 30, 1904, was unusually small. In the public accounts for the year, just laid before Parliament, it is shown that the total amount of the balances to the credit of depositors increased \$1,387,320. It is explained that withdrawals exceeded deposits by \$405,478, but the addition to the accounts of the interest accrued amounted to \$1,792,799, thus turning the loss into a gain. The growth of these deposits is shown by the following table:

Growth of deposits in the Canadian Government Savings Bank in specified years, 1868 to 1904.

Year ended June 30—	Deposits.	Year ended June 30—	Deposits.
1868.....	\$1,687,808	1900.....	\$53,149,723
1871.....	7,171,181	1901.....	56,048,959
1880.....	11,052,956	1902.....	58,437,988
1885.....	32,979,076	1903.....	60,771,128
1900.....	41,012,465	1904.....	62,158,449
1905.....	44,450,498		

The very rapid increase made prior to 1890 can be put down to the attractive rate of interest allowed. People hastened to deposit their money with the government when they could get interest at 4 per cent per annum for it. In 1889 the rate was reduced to 3.2 per cent, and from that time progress has been a great deal slower.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *January 27, 1905.*

COMMERCIAL AND INDUSTRIAL CONDITIONS IN
BADEN.*(From United States Consul Harris, Mannheim, Germany.)*

GRADUAL IMPROVEMENT.

The conditions of trade in this consular district show but few marked changes during the past twelve months. The tendency toward improvement noted a year ago has continued, but the change has been gradual. Bankers, manufacturers, and others express the opinion that it may yet be some time before recovery will be complete. Railway earnings, harbor reports, the labor markets, building trades, and manufacturing statistics all show improvement over last year. Nevertheless there is complaint among manufacturers of overproduction, excessive competition, and meager profits.

INDUSTRIAL COMBINATIONS.

During no other period in the history of German manufacturing has there been more careful study of business conditions at large and more effort to meet these conditions than during the past twelve months. Combinations of capital and trade agreements between heretofore competing concerns have been formed with much publicity and frank admissions as to the necessity of such combinations and the part they seem destined to play in the future of manufactures and commerce. The recently formed trade agreement between the three great aniline color works of Germany—the Badische Anilin und Soda Fabrik of Ludwigshafen in the Mannheim district, the Aktiengesellschaft für Anilinfabrikation in Berlin, and the Elberfelder Fabriken vormals Friedrich Bayer & Co., of Elberfeld—may be viewed as a marked illustration of such combination of interests among great concerns, each of which has been eminently successful, and with no apparent danger of injurious competition or overproduction as in the case of the Portland cement and other industries. This agreement among the color works is said to be but a forerunner of similar agreements in other branches of the chemical industry.

Like influences in banking have brought about several consolidations and mutual agreements which will doubtless tend to give added stability to a branch of business notably well managed in most parts of Germany.

Department stores are rapidly increasing in the principal cities, and mark a tendency toward consolidation and expansion that is unmistakable.

TECHNICAL AND COMMERCIAL SCHOOLS.

The interest in technical and commercial schools for the training of both sexes in practically every branch of skilled labor shows a constant tendency to increase. The demand for such schools comes from all classes, especially from large employers of labor. Besides the well-known technical high school at Carlsruhe, with an enrollment of from 1,300 to 1,500 pupils, and the chemical and other scientific departments of the university at Heidelberg, there are in the district engineering schools, commercial schools, a school for sailors, for locomotive and stationary engine firemen, for tree culture, etc.

COMMERCIAL AND TRADE STATISTICS.

Reports of chambers of commerce and trade publications show a continuation of that intelligent study of foreign markets and their demands in which Germany stands preeminent among continental nations. Possibly no other nation has at easy reach such a mass of valuable information about the trade requirements of other parts of the world as this one. The undoubted aim is to add to and to utilize this knowledge as rapidly as possible.

AMERICAN MACHINERY FOR GERMAN INDUSTRIES.

To improve and to advance may be taken as the watchwords of German manufacturing. The Mannheim district is noted for its varied industries, its foreign trade, and the up-to-date equipment of manufacturing plants. If in some cases the manufacturer seems conservative and slow to abandon old machinery and processes, it is seldom due to the fact that he does not know the advantage of improved machinery. He may find that with lower wages he is justified in retaining machinery that would not suffice in an American factory. There are notable instances in the district where wholly new machinery has been installed at large expense. One of the largest Portland cement factories in Germany is near Mannheim and is fitted throughout with rotary furnaces of the American pattern. Modern milling machinery is found in the large flouring mills in this locality. Modern steam and electric cranes are found along all the harbors of the city.

The German manufacturer, with the advantage of lower wages, a fairly well-trained body of workmen, and a discriminating knowledge of the markets of the world, will continue to be a more and more important factor in the world's manufacturing. He will be more and more a customer for labor-saving machinery in which durability, simplicity, and effectiveness are characteristics. Machinery for this market should be adapted to local conditions and requirements. An American machine for making matches from soft pine succeeds in the United States where such pine is abundant, but it would be unsuited to Germany, where such pine is wanting. The German engine builder, boiler maker, etc., doubtless constructs with more reference to a saving of fuel than does his American competitor. That peasants and some classes of mechanics use out of date tools and implements argues rather tardiness in adopting improvements than want of skill on the part of the manufacturer, as witness, for example, the fact that a single factory of Mannheim has recently turned out its ten-thousandth steam-thrasher outfit. The same concern manufactures cream separators and a long list of entirely modern appliances.

AMERICAN MANUFACTURED GOODS.

American mowers and reapers, typewriters, cash registers, and a large array of novelties continue to find a fairly ready market in this district. Office furniture, sectional bookcases, sewing machines, pianolas, wood and iron working machinery, and some forms of hardware share the market with the native product, with a tendency for the latter to gain at the expense of the imported article, sometimes on account of price, terms of credit, ease of securing repairs, and patriotic consideration, which enters more or less into German trade.

RAILWAYS.

Extensive improvements have been made in the steam railways of this district during the past year, and involved large expenditures of money in extending lines, building bridges, etc. A \$6,000,000 railway station at Heidelberg is one of the projected improvements soon to be started. Long-distance telephone connections have been greatly extended. In face of this improvement in steam railway lines, there is a singular backwardness in electric railway building, especially in suburban and interurban lines. State railway ownership and the difficulty in securing charters for private railways have in part caused this backwardness in electric railway construction. The city lines now in operation are well built, and are reported to be yielding fair incomes. The future will doubtless see a new impulse given to electric railway building in the thickly settled portions of this part of Germany.

H. W. HARRIS, *Consul*.

MANNEIM, GERMANY, *January 6, 1905.*

COMPLAINTS AGAINST THE SUEZ CANAL MANAGEMENT.

(*From United States Consul Ravndal, Beirut, Syria.*)

INCREASED RECEIPTS.

In my report, March 31, 1903 (published in Consular Reports for July, 1903), I stated that Suez Canal transit receipts for 1901 amounted to \$19,515,116 (an increase over 1900 of \$1,897,889), and were higher than in any previous year since the opening of the route. It now transpires that during the twelve months ended December 31, 1904, 4,257 ships entered the canal, and there were received in dues \$22,524,540, an increase of \$2,411,610 over 1903, in which year the number of ships passing through the canal was 3,775. The growth of the Suez Canal business is illustrated in the statement that the number of ships using the canal in the years 1899, 1900, 1901, 1902, 1903, and 1904 were 3,607, 3,441, 3,699, 3,708, 3,775, and 4,257, respectively.

COMPLAINTS.

British shipowners seem very much dissatisfied with their treatment by the Suez Canal Company, so much so that schemes for rival enterprises are again being discussed in most British newspapers. In 1883 there was a similar outcry against the Suez Canal monopoly, and three sets of plans were drawn up—one for a fresh-water canal from Alexandria to Cairo and thence via Tel-el-Kebir to Suez; another to con-

struct a canal from Alexandria to Mansura and Ismailia and thence to Suez, and the third to dig a canal parallel to the existing one. However, the British Government did not encourage the "British Canal" proposition, and Mr. Gladstone seems publicly to have conceded the exclusive rights of the De Lesseps organization to a waterway across the Isthmus of Suez. This did not pacify the disgruntled ship-owners, and as the canal would not prove much of a success without the cordial support of British shipping interests, M. de Lesseps repaired to England and negotiated with the shipowners. The result was that the two parties agreed to what is called "the London programme," with the conclusion of which the agitation apparently subsided.

In British shipping circles it is held that "the London programme" was based on a distinct understanding that the canal company would reduce the rates on ships gradually from the 13½ francs (\$2.61) per ton, originally charged, and that when the company's dividend reached 25 per cent no higher dividend was to be paid until the dues were reduced to 5 francs (96.5 cents) per ton. It is further claimed that last year a dividend of 26 per cent was paid while the dues were 8½ francs (\$1.69) per ton. Other complaints are aired, one implying arbitrary tonnage measurements, including spaces on deck available for cargo.

Sir Theodore Angier, of the shipping firm of Messrs. Angier Brothers, recently stated in a public interview:

We are not the helpless creatures the canal people think we are, and I believe that, even by their own action, they are bringing about their own defeat. The result will be that, even if no other canal is cut, shipowners will alter their style of vessels, and will build those which, while they could not pay going through the canal, will do so if sent round the Cape. I can not conceive that any Government would object to a second canal, for, by increasing the facilities for traffic, it would be all in the interests of trade.

According to the London Standard, the Hamburg-American Company has joined the opposition to the Suez Canal Company, and issued a statement of grievances, concluding as follows:

The management of the Suez Canal is such that it exasperates the whole shipping world. If the present agitation in favor of a second canal results in the reduction of the tolls of the existing canal, the shipping trade with the Far East will be greatly facilitated. After the conclusion of the war between Russia and Japan there will be great opportunities for developing the trade with Far Eastern countries. If, however, the Suez Canal continues to be managed as at present, both Russia, with the Trans-Siberian Railway (the efficiency of which has been greatly increased by the war), and America, with her direct sea route, will be far more favorably situated than the European countries whose way lies through the canal.

Mr. Bonnet, secretary of the Suez Canal Company, and Prince d'Arenberg, president thereof, have endeavored to refute all charges of autocratic and unfair treatment of ships passing through the canal and of violation of the provisions of "the London programme." The Suez Canal Company's view of the plans to cut a second canal across the Isthmus of Suez is set forth as follows:

Before referring to the grievances of certain shipowners, it is right to point out that the Suez Canal Company possesses a monopoly which will not expire till the canal, at the end of its concession, in about seventy years, passes into the possession of the Egyptian Government. It is, of course, possible that the present canal company should, through violation of its concession, be pronounced to have forfeited its monopoly; but at the present time the complaints do not go so far as that.

It is probable that if the present company failed to keep its engagements, the Egyptian Government would quash its monopoly and perhaps grant another concession to a new company; but the British Government, which possesses no fewer than 176,000 of the Suez Canal shares and has its representatives on the board of directors, has formulated no complaint against the management of the enterprise, which produces for it a sufficiently large revenue to be of appreciable value to the English treasury.

If the canal were mismanaged, the British Government, as the largest shareholder, would certainly be the first to complain; but under present circumstances its representatives are in perfect accord with the president and other members of the board of directors, so that it is scarcely likely to advise the Khedive to grant a concession for a second canal.

Even supposing the concession were granted by the Egyptian Government, there would still remain the question of the sovereignty of the Sultan and of the validity of that concession without the ratification of the Porte. It is, therefore, clear that if the plans for the cutting of a second canal are already prepared, the moment has not yet come when the contractors can commence their work.

It is authoritatively announced that "the next reduction of 50 centimes (9.65 cents) in the toll will take place when the dividend on the share capital has reached 135 francs (\$26.06). Each 10 francs (\$1.93) increase of the dividend will correspond for the future with a reduction of 50 centimes (9.65 cents) in the toll."

Whether the promised reduction (probably this year) of the Suez Canal dues from $8\frac{1}{2}$ to 8 francs (\$1.64 to \$1.544) per ton will appease the present agitation remains to be seen. Deck dues will most likely continue to be charged.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *January 12, 1905.*

SHIPBUILDING IN GERMANY IN 1904.

(From United States Consul-General Pitcairn, Hamburg, Germany.)

The following table shows the number and tonnage of vessels built in German shipbuilding yards during the year 1904, as well as the number and tonnage of ships remaining unfinished in German yards at the end of the year:

Number and tonnage of vessels built in Germany in 1904 and in process of building December 31, 1904.

Yard.	Vessels built, 1904.		Vessels building, December 31, 1904.	
	No.	Tons.	No.	Tons.
Blohm & Voss, Hamburg.....	4	23, 772	5	25, 740
Reiherstieg Schiffswerfte und Maschinenfabrik, Hamburg.....	2	13, 545	4	14, 450
Joh. C. Tecklenborg, Actien-Gesellschaft, Geestemünde.....	9	23, 273	6	21, 300
Bremer Vulcan, Vegesack.....	11	22, 910	10	40, 730
Rickmers Reismühlen, Rhederei und Schiffbau Actien-Gesellschaft, Bremerhaven.....	12	9, 127	3	10, 950
Actien-Gesellschaft Weser, Bremen.....	6	7, 454	6	13, 110
G. Seebeck, Actien-Gesellschaft, Bremerhaven.....	14	3, 316	5	5, 034
Eiderwerft, Actien-Gesellschaft, Tönning.....	8	9, 370	4	5, 000
Flensburger Schiffbau-Gesellschaft, Flensburg.....	11	34, 730	10	23, 350
Friedr. Krupp, Actien-Gesellschaft, Germania-Werft, Kiel.....	3	10, 246	5	37, 740
Howaldtswerke, Kiel.....	13	14, 880	13	12, 145
Henry Koch, Lübeck.....	7	9, 743	6	9, 300
Actien-Gesellschaft Neptun, Rostock.....	14	19, 156	10	19, 460
Stettiner Maschinenbau-Actien-Gesellschaft Vulcan, Stettin.....	1	8, 856	5	48, 480
Nüscke & Co., Stettin.....	3	2, 237	4	4, 250
Stettiner Oderwerke, Stettin.....	9	898	7	6, 640
F. Schichau, Danzig.....	3	11, 094	3	(?)
J. W. Klawitter, Danzig.....	6	2, 925	4	864

In addition to the foregoing, Blohm & Voss, Hamburg, built 2 docks in 1904 and are building the large cruiser *York*, a four-masted bark, and 2 steamers; Actien-Gesellschaft Weser, Bremen, built 1 floating dock and 1 pontoon in 1904 and is building 2 steamers for the North German Lloyd Line; G. Seebeck, Actien-Gesellschaft, Bremerhaven, is building 1 sailing yacht; Howaldtswerke, Kiel, built 2 docks in 1904; Actien-Gesellschaft Neptun, Rostock, is building 2 sailing yachts; F. Schichau, Danzig, built 1 steamer hopper in 1904 and is building 1 battle ship; and J. W. Klawitter, Danzig, built 1 floating dock in 1904.

These statistics show that the German shipyards were not occupied to their maximum working capacity. For instance, the figures for the Stettin "Vulcan" yard are extraordinarily low; in comparison with the tonnage of vessels finished by this establishment in 1904, the figures for vessels in process of building are very high, as they include the 25,000 tonnage of the steamship *Kaiserin Augusta Victoria* for the Hamburg-American Line. A steamer of similar dimensions, the *America*, is in course of construction in the shipbuilding yard of Harland & Wolff (Limited), of Belfast, Ireland, also for the

Hamburg-American Line, and is intended to be put in commission this summer.

The figures for the "Germaniawerft," of Kiel, and the Bremen "Vulkan" show a very material increase, in comparison with those of former years, chiefly due to the recent extension of the plants of these yards. The general opinion is that the prospects for the present year are more favorable than were expected a few months ago. A large number of orders have been placed recently by shipowners, and the shipbuilding prices having been raised on account of a more favorable tendency in the iron market; the industry, to all appearances, looks forward to better times during the present year.

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *January 4, 1905.*

PANAMA WATER SUPPLY.

(From United States Consul-General Gudger, Panama City, Panama.)

The people of Panama depend for their water supply on (1) tanks, cisterns, or other means of catching and preserving rain from the roofs of houses; (2) wells in the "patios," or yards; and (3) purchases from vendors. The rainy season lasts generally eight months, ending December 1. The small number of those who are fortunate enough to have large tanks or cisterns get a sufficient supply of water to answer all purposes. Many of the houses have no tanks, and the occupants must buy water or get it from wells to keep in barrels, tubs, etc. A large number of cartmen sell water in the city, charging 5 cents for 5 gallons, and during the dry season 10 cents. The tanks, barrels, tubs, cans, etc., used in preserving water are, as a rule, open, and form favorite places for breeding mosquitoes. Experts on the subject hold that the only means of transmitting yellow fever, malarial fever, and other kindred diseases are mosquitoes. Except by their utter extermination, if this theory be true, it is impossible to eradicate the diseases named. This can not be done while the breeding places remain intact, and these observations apply not only to Panama, but to the entire isthmus.

To make the city reasonably healthful and remove the fever menace it is indispensable that a water supply, with proper sewerage, be introduced in the cities of Panama, Colon, and in the entire Canal Zone. This fact was recognized by the United States and the Republic of Panama when they made the treaty with regard to the construction of the interoceanic canal. In that treaty it is provided that the United States shall furnish water supply and sewerage systems and place in complete sanitary condition the cities of Panama and Colon. This obligation is being carried out, and in a very little while adequate water, sewerage, and sanitation will exist in the places named.

For many years it has been the earnest hope of Panamans that the water supply might be brought from the San Juan River, a beautiful, sparkling, and clear stream, some 15 miles distant, but the United States authorities have selected the Rio Grande as the source of supply. This stream is located in the Canal Zone, 10 miles from Panama, on the line of the Panama Railroad and the route of the canal. The watershed has an area of about 4 square miles, is uninhabited, and is covered with forest. A reservoir has been constructed covering about 70 acres, with a capacity of 500,000,000 gallons. Necessary walls have been constructed, earth removed, underbrush and logs taken away, and, in fact, everything done with a view to keeping the water pure and uncontaminated. This lake is fed by a beautiful stream which furnishes all the water needed during the rainy season and sufficient to fill the reservoir for use at the beginning of the dry season. The tests show that during the very driest weather it can be relied on for 3,000,000 gallons daily. One of the great advantages of the selection is that the title to the watershed is in the United States Government.

The estimate is that at the beginning of the dry season the supply on hand will be 500,000,000 gallons. Taking this as approximately correct, the supply will be adequate for 40,000 people, estimating the amount used at 100 gallons per capita daily. The city has at present not more than 20,000 people, so that it will be seen that all the water needed may be obtained from this source. The water has been analyzed and found to be chemically and bacteriologically pure, and the stream furnishes a first-class quality of water in abundance. It is now the consensus of opinion of those who have investigated the matter that no mistake was made in selecting the source of supply. Whatever prejudices may have existed at the beginning have largely disappeared.

Commencing at the lake, the aqueduct has been laid for about 1 mile in the direction of Panama. This was done with the piping on hand left over from the French Canal Company. The ditch for the remainder of the way has been practically completed to the city limits, and putting down the aqueduct will take a very short time when the necessary material has been received. It is stated by those in a position to know that all material necessary to complete the waterworks left Mobile on the schooner *A. G. Babcock* January 5.

Lake Rio Grande is several hundred feet higher than Panama City. The water will be conveyed by gravitation to a reservoir, also higher than the city, on the hill at Ancon, and thence to Panama City close by, so that the whole waterway will be by gravity. The reservoir at Ancon is built of stone, is cemented, and has a capacity of 50,000,000 gallons. All the work done and the materials used seem to be first class in quality.

H. A. GUDGER, *Consul-General*.

PANAMA CITY, PANAMA, *January 24, 1905.*

AUTOMOBILES AND MOTOR BOATS IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

AUTOMOBILES.

Practically speaking, there is no extended market for automobiles in China. In the average Chinese city it would be impossible to use a machine, and there is no prospect of any improvement in the near future of a character to promise any trade. In Shanghai a good many automobiles are in use, and their popularity is increasing. It may almost be said that an automobile boom is on in that city. There are many people there who can afford automobiles and who are accustomed to spend money in such ways, but the demand will be limited to Shanghai City, and machines suitable for city work rather than country touring are the ones needed. Automobile manufacturers in the United States should have representatives among the business men of Shanghai. American makes will be received upon their merits.

MOTOR BOATS.

As to motor boats the prospect is very bright. The whole of China is a network of canals and rivers upon which motor boats, especially boats of light-draft capacity, can be operated. Within the past few years the accepted mode of travel has been by house boat, towed by a steam launch. Where the regular lines of steam launches do not run, the old-time house boat with a yuloh or scull is employed. These boats are very slow, and grow more and more unpopular. It will be many years before this travel is displaced by railroads, and in the meanwhile there is a growing favor for power boats, both for the private ownership of those who are compelled to go about considerably in China and for a more or less public service. The motor boat as it is now made in the United States is practically unknown in China. In Shanghai and other prominent trading points on the coast there are a number of modern small launches, but the great interior is practically untouched. The Chinese people who have sufficient means to buy such things are turning more and more in the direction of modern western inventions, and I have no doubt that a consistent and persistent campaign in behalf of American motor boats, of cheap and substantial grades, would result in building up a great and permanent business. The need of motor boats is here, and the Chinese and foreigners domiciled here are appreciating the need. So far there has been little done to meet it. There is an agency for one line of American launches in Shanghai, and several other firms there have a working arrangement with concerns in the United States for the sale of boats, but the business is not pushed, and there will probably be little change in the

situation until the manufacturers of the United States go at the matter systematically and with energy. The boats sold in Shanghai are usually of high grade and high prices, and most people of moderate means do not realize that there are motor boats within their reach. It is quite possible that a strong advertising campaign, even in English, would result in a good start for a motor-boat boom, and catalogues in Chinese would undoubtedly be effective. But the real need is personal representation and hard work for a while.

At present Pacific freight rates are unfavorable to motor boats. During the past summer the rates charged were about two and one-half times the rates charged for household goods. As yet there have been few shipments around by the Atlantic. At present the tendency is to buy Pacific coast goods as far as possible, because of the rates, but the Pacific coast manufacturers have not been making motors and machines of the grades and at the prices which will reach the bulk of the trade in the Far East. The more popular sized and medium to cheap grades of boats made in the Eastern States are what are required in China.

As a rule the Chinese are good boat builders when they have good models to work from, and it would be practicable for American boat builders to ship boat machinery here and have the hulls made in China. It will be a long time before the natives will be making boat-propelling machinery of the modern sort, but it will be a very short time until they make as good hulls as are made elsewhere. In Shanghai the other day I saw a Chinese carpenter and furniture maker making a hull from the model of one of the American boats sold there. He was making a very creditable boat. The machinery was to come from the United States. With a little instruction and practice these carpenters will turn out good boats at figures which will make American prices look exceedingly high. Chinese labor is so cheap that in a product like a boat hull, in which the chief cost is the labor expended upon it, China has an advantage which is overwhelming, other things being equal. Of course many people appreciate the advantages of having a boat completely built by experts in the United States. American manufacturers ought to be able to meet the requirements of this trade in either line, and I see no reason why they can not easily do so.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *December 21, 1904.*

PACKING GOODS FOR CHINA.

(From United States Consul Anderson, Hangchau, China.)

There are continued complaints of poor packing and of poor grades of American goods sent to China in competition with goods from other countries, which are well packed and well worth the prices charged for them. While goods sent here must naturally be cheap to come within range of the purchasing power of the mass of the people, it does not follow that they should be poor or unwholesome. Faults of some business houses in the United States are shown in a letter I have from Mr. C. E. Bousfield, head of the Baptist mission at Shaoshing, in this district. In sending a list of business houses handling American goods in that city for which I had asked him, he says:

In reply to your request I have made careful inquiries and have found out and am sending a list of the important stores in the city where foreign goods are sold. There are very many smaller ones, but almost without exception they get their goods from the larger stores named in the list. There are, besides, drug stores and photographers which use a small amount of foreign goods and will use more in the future.

I am very glad that you are taking up the matter, for it has stirred me up again and again to see so much foreign goods of other nationalities sold here and so little American goods, except flour and oil. As a proof of my feeling in the matter, I went so far as to have sent out a quantity of stuff from a San Francisco house, hoping in that way to make a beginning of a store here. I told this house of the opportunities here. I think I would have accomplished something if they had not been too greedy and sent me a lot of rubbish they could not sell at home. I almost "lost face," and, to save myself, bought a lot, which, of course, I did not need—patriotism costs something sometimes. I have also tried to get a cousin, who is in a Connecticut firm, interested, but he has all the business now that he can handle.

There is a vast amount of miscellaneous goods, groceries, dry goods, notions, light hardware, and the like sold in the Far East at the present time by European nations which ought to and would come from the United States if American business men were satisfied with large sales and small profits in this trade.

The importance of proper packing of goods for the Orient and for long sea voyages generally can not be impressed too much upon American exporters. If they could see the shape in which much of the goods from the United States arrives here they would surely be convinced that it is to their immediate and important interest to adopt better methods. The packing done by some of them, and this includes some of the largest firms in the country, simply means annoyance to themselves and loss to their patrons.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *December 17, 1904.*

PRODUCTION AND EXPORTS OF FORMOSAN TEA.

(From United States Consul Fisher, Tamsui, Formosa.)

The tea season in Formosa has closed with an exportation of nearly 3,000,000 pounds less than in the previous season. The exports for 1903 and 1904 were as follows:

Exports of teas from Formosa, 1903 and 1904.

Kind.	1903.	1904.
	<i>Pounds.</i>	<i>Pounds.</i>
Oolongs.....	20,315,665	17,979,818
Pouchongs.....	3,274,523	2,786,514
Others.....	560,516	476,262
Total.....	24,140,704	21,242,594

The exportation of Oolongs from the port of Kilung during 1904 shows a large increase over that of 1903, notwithstanding the shortage of this season's crop. This may be seen in the following table:

Exports of Oolong tea from Kilung, Formosa, 1903 and 1904.

Ports of exportation and destination.	1903.	1904.
	<i>Pounds.</i>	<i>Pounds.</i>
Tamsui to Amoy.....	15,510,628	11,985,844
Kilung direct to America.....	3,775,688	5,426,398
Kilung to Japan for transshipment to America.....	1,029,349	617,576
Total.....	20,315,665	17,979,818

^aThe Oolong tea exported to Amoy is transhipped to America, with the exception of a very small percentage to Great Britain.

Eighteen vessels loaded tea at Kilung for direct shipment to America during the present year, as against eight in 1903.

As practically all the tea produced is exported, the crop of each year may be closely approximated by the exports. The quantity of each season's crop held over is insignificant. The following table, showing the export of tea for the years from 1896 to 1904, has been prepared from the customs returns:

Exports of tea from Formosa, 1896 to 1904.

Year.	Pounds.	Year.	Pounds.
1896.....	21,474,200	1901.....	20,084,741
1897.....	20,516,020	1902.....	22,333,863
1898.....	20,632,407	1903.....	24,140,704
1899.....	19,837,331	1904.....	21,242,594
1900.....	19,913,549		

The unusually large crop of 1903 resulted from extremely favorable climatic conditions. The crop of 1904 suffered from lack of rain and from cool weather during the summer and early autumn months.

Last year the industrial bureau of the Formosan government erected a plant at Toshien, about 16 miles to the southwest of Daitotei (Tamsui), for the manufacture of tea by machinery. The object of this experiment was to produce a more uniform quality at a lower cost than can be done manually. The plant consists of a Sirocco firing machine with the usual rolling, cutting and sizing, and sifting machinery, and was brought from Ceylon. The economical operation of this plant in producing Oolongs has not been demonstrated.

During the year importers in the United States found occasion for complaint at the large amount of dust that had been packed in the shipments. In fact, the Tea Association of New York considered it necessary to call the attention of the "trade" to the matter, and in their circular letter stated that unless the abuse was checked it would lead to a decrease in the consumption of Oolongs in America. This practice, no doubt, arose from the high prices demanded this year by the planters for the green leaf, which the demand in the United States did not sustain. This left the packers little or no margin on their transactions with the exporters. Some of the exporters endeavored to remove this abuse by buying the green leaf in the country and firing and packing it themselves. The trade in Oolongs, which is the principal product of the industry, is in the hands of four American and three British houses.

According to the statistics kept by the agricultural section of the industrial department of the Formosan government, the areas under tea cultivation in the years from 1898 to 1903 were as follows:

Area under tea cultivation in Formosa, 1898 to 1903.

Year.	Acres.	Year.	Acres.
1898.....	102,821	1901.....	62,522
1899.....	102,821	1902.....	67,830
1900.....	62,804	1903.....	83,380

The expansion of the tea-producing district in recent years has been toward the south.

FRED D. FISHER, *Consul.*

TAMSUI (DAITOTEI), FORMOSA, *December 22, 1904.*

ELECTRO-THERMIC PROCESSES FOR IRON-ORE SMELTING.

(*From United States Consul Worman, Three Rivers, Quebec.*)

The report of the commission appointed by the Dominion government in 1904 to investigate the different processes for the smelting of iron ore and the production of steel has been published recently by the department of the interior. A preliminary report was made the basis of an article in the Labor Gazette issued by the department of labor for June, 1904.

The full report of the commission contains reports of the superintendent of mines, the electrician, and the metallurgist, and a report of the Marcus Rutherburg process of electric smelting of magnetite. In an appendix there are printed a "Treatise on electro-metallurgy of iron," by Henry Harmet; "The electrical manufacture of steel," by Gustav Gin; "Electro-thermic process for the reduction of iron ore," by Capt. Ernesto Stassano; and a "Lecture on the treatment of copper ores by the electric furnace (Keller process)," by M. Ch. Vattier. The report is illustrated by 24 plates and 29 figures, which form a means of understanding the construction of the various kinds of apparatus and furnaces used in this branch of electro-metallurgy. An important feature is the list of patents held by the different firms engaged in the industry. The conclusions reached by the commission are on the whole very favorable to this new industry, although it is recognized that it is still largely in the experimental stage. Mr. Harbord, the metallurgist on the commission, summed up his investigations as follows:

1. Steel equal in all respects to the best Sheffield crucible steel can be produced, either by the Kjellin, Heroult, or Keller processes, at a cost considerably less than the cost of producing a high-class crucible steel.

2. At present structural steel to compete with Siemens or Bessemer steel can not be economically produced in the electric furnaces, and such furnaces can be used commercially for the production of only very high-class steel for special purposes.

3. Speaking generally, the reactions in the electric smelting furnaces as regards the reduction and combination of iron with silicon, sulphur, phosphorus, and manganese, are similar to those taking place in the blast furnace. By altering the burden and regulating the temperature, by varying the electric current, any grade of iron, gray or white, can be obtained, and the change from one grade to another is effected more rapidly than in the blast furnace.

4. Gray pig iron, suitable in all respects for acid-steel manufacture, either by Bessemer or Siemens process, can be produced in the electric furnace.

5. Gray pig iron, suitable for foundry purposes, can be readily produced.

6. Pig iron, low in silicon and sulphur, suitable either for the basic Bessemer or the basic Siemens process, can be produced, provided the ore mixture contains oxide of manganese and that the basic slag is maintained by suitable additions of lime.

7. It has not been experimentally demonstrated, but from general considerations there is every reason to believe that pig iron, low in silicon and sulphur, can be produced, even in the absence of manganese ore in the iron mixture, provided a fluid and basic slag be maintained.

8. Pig iron can be produced on a commercial scale at a price to compete with the blast furnace only when electric energy is very cheap and fuel very dear. On the basis taken in this report, with electric energy at \$10 per estimated horsepower per year and coke at \$7 per ton, the cost of production is approximately the same as the cost of producing pig iron in a modern blast furnace.

9. Under ordinary conditions where blast furnaces are an established industry electric smelting can not compete, but in special cases where ample waterpower is available and blast-furnace coke is not readily obtainable electric smelting may be commercially successful.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *January 31, 1905.*

AMERICAN SHIRTS FOR GERMANY.

(*From United States Consul Monaghan, Chemnitz, Germany.*)

"There is not a question of doubt," says a German importer of American goods, "that a large business could be done in American fancy shirts in Germany. A fancy shirt costs from 6 to 14 marks (\$1.50 to \$3.50), not made to order, and when one considers the price which must be paid he wonders that he has not thought of having his colored shirts sent from the States." Most of these shirts have detachable cuffs, and the body is flimsy, not made for long endurance. The wearing of fancy shirts has taken a strong hold in this country, and, as the German is quite conservative, one can be assured that it will be a long time before he departs from the custom.

In considering the matter our manufacturers must not lose sight of the difference in physique of the average German and American. Special attention must be given to the cut of the shirt; the sleeves, for example, must be very full at the top and the wrist in accordance with the top. Attractive design is another important feature, and special attention should be paid to the putting up and shipment of the goods. As a rule Germans prefer shirts with long bodies and detachable cuffs, but one very often sees shirts with cuffs attached.

I learn that the German duty on these shirts is 1.5 marks per kilo (35.7 cents per 2.2 pounds), 7 shirts to the kilo. This duty pertains to shirts with or without linen fronts. The freight can not amount to

much per dozen shirts, as they will make but a small package, which can be further reduced by shipping them unlaundered, as they can be laundered here much cheaper than in the United States. It seems to me the best way to take hold of this matter would be to establish a house at Hamburg, Bremen, or Berlin, where proper attention could be given to the trade.

J. F. MONAGHAN, *Consul.*

CHEMNITZ, GERMANY, *January 7, 1905.*

NEW BRICKMAKING PROCESS.

(*From United States Consul Stephens, Plymouth, England.*)

The Plymouth and Stonehouse Gas Light and Coke Company has just started a new process of brickmaking from two of its by-products—clinkers from the furnaces and spent lime from the purifiers. The works are the first installed in England and have created a large amount of interest.

First mixed with a proportion of clinker (about one-fourth of lime to one of clinker), the lime is raised into a calcining tower and converted into carbonate and silicate of calcium. It is slaked with water, mixed with a further proportion of clinker (about two of clinker to one of calcium material), and then passed through a tempering mill, the proper amount of water being added. By another elevator it is carried to a platform and delivered into a toggle press, which turns out the manufactured brick in a soft form. Placed on wagons, the bricks are run into an autoclave, a large tubular vessel capable of holding 7,000 bricks. Here they are subjected to a pressure of about 110 pounds for upward of twelve hours, following which they are stacked and ready for sale.

The bricks are said to be of a higher quality than those produced in the ordinary process of manufacture, their resisting strength being about 350 tons to the square foot. The absorption of water is small, from $4\frac{1}{4}$ to 5 per cent, which compares very favorably with the ordinary brick. These bricks have been rigorously tested by an engineering expert of London; have been alternately frozen and thawed, and subjected to the regular acid tests. He reports them to be entirely satisfactory.

JOS. G. STEPHENS, *Consul.*

PLYMOUTH, ENGLAND, *January 20, 1905.*

TIN PRODUCTION OF THE WORLD.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

According to recent German returns, the tin production of the world amounted to 93,093 tons in 1903, an increase over the preceding year of 2,916 tons. According to these returns, 75 per cent of all tin comes from southeastern Asia, the following being the estimated output of the several colonies and countries: Malacca, 54,797 tons; Banca and Billiton, 20,060 tons; Bolivia, 9,500 tons; Australia, 4,191 tons; Cornwall, 4,150 tons; all other places, 395 tons.

Although the production of tin has increased regularly from year to year, the output is not sufficient to supply the demand, as the stock on hand in the most important tin markets has constantly decreased. The United States consumes 43 per cent of the total tin production; Great Britain, 28 per cent; the other European countries, 22 per cent, and India and China together, 7 per cent. It is surprising that the United States, which during recent decades has made such enormous progress in exploiting its mineral resources, is not yet a factor in the production of tin, although considerable deposits are said to exist in South Dakota, Wyoming, and in North and South Carolina. A year ago one tin mine was opened in South Carolina.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *January 13, 1905.*

MANUFACTURE OF ARTIFICIAL SILK IN FRANCE.

(*From United States Consul-General Skinner, Marseille.*)

PRODUCTION AND COST OF ARTIFICIAL SILK.

Silk belongs to the class of albuminoid matters and is susceptible of synthesis. The founders of the new artificial-silk industry in France have sought not so much the formula necessary for a complete combination of the chemical elements of animal silk as to produce a textile embracing its principal technical properties, more particularly tenacity, brilliancy, suppleness, elasticity, and bleaching and coloring aptitude. Animal silk on leaving the silkworm is of half-fluid consistency, and solidifies rapidly in the air. Observation of this fact has been the point of departure of the various inventors who have brought the artificial process up to its present stage of development. Collodion, a solution of nitric cellulose in a mixture of alcohol and ether, is forced through fine glass tubes, leaving the apparatus in the form of a thread, which needs only to be wound upon bobbins.

The new textile has secured an important place in industry. Against

an annual world's production of 30,000 tons of animal silk we may even now set down 4,000 tons of artificial silk, and the production appears to be unequal to the demand. Its tenacity and elasticity are inferior, but it is even more brilliant than the natural silk, and may be bleached and dyed quite as readily. It is highly inflammable, but work upon this defect is proceeding, and as we now have noninflammable collodion we may soon expect to have noninflammable artificial silk.

Substantial commercial success has attended the efforts of the *Société des Soies de Chardonnet de Besançon*, and the *Société des Soies Viscoses* gives promise of yielding satisfactory returns. The latter, I believe, is a Belgian concern. I have learned from confidential sources that the cost per kilogram (2.2 pounds) of producing the Chardonnet silk is 15 francs (\$2.90), and that it finds a market at about 32 francs (\$6.17). Manufacturers by the "viscose" method claim to be able to produce silk at 7 francs per kilogram (\$1.35 per 2.2 pounds), and to secure qualities which make it worth 35 francs (\$6.75) upon the market. It is claimed that the Chardonnet silk decomposes in water and must be dry colored. The "viscose" manufacturers declare that water exercises no injurious effect upon their fabric, and that it may be dyed by any process. Both fabrics are used principally for the manufacture of passementeries, upholstering, and some classes of clothing. There were two exhibits of artificial silk at the St. Louis Exposition, and while the silk jury awarded a gold medal to one and the chemical jury gave a grand prize to the other, the processes by which the material was produced remained a secret.

PROCESSES OF MANUFACTURE.

All manufacturers and inventors have accepted cellulose as the proper material for the production of artificial silk, inasmuch as this matter is found everywhere in nature. It is found in an almost pure state in the pith of elder trees, filter paper, lint, and old linen. It suffices, then, to boil these bodies in a feeble lye, wash them, pass over them a current of chlorine, again wash them, dry them, purify them by means of the principal solvents, such as acetic acid in ebullition, alcohol, or ether, and terminate the process by a final scouring in water, followed by drying. The product is cellulose.

Cellulose possesses neither odor nor savor. It is solid, white, and insoluble in all habitual solvents. Practically only one liquid is known which is susceptible of dissolving cellulose, "ammoniaco cuprique," called the Schweitzer reagent. It is prepared by passing ammonia through copper shavings in contact with air. A blue liquid is thus obtained which dissolves the cellulose, and which, being precipitated in water, is amorphous and gelatinous.

THE CHARDONNET PROCESS.

Some attribute the discovery of artificial silk to Réaumur, and many persons occupied themselves with the subject earlier than the French engineer De Chardonnet. The latter, however, is entitled to the honor of having been the first to establish an industrial process and to obtain a commercial silk.

The first French patent obtained by M. de Chardonnet bears date November 17, 1884. The inventor has made a great many additions to his original patents, of which he has at least eleven. The process is described in the original certificate as follows:

The purified cellulose obtained from the paste of wood, straw, cotton, rags, and filter papers, is nitrated by the known methods, in such fashion as to render it soluble in a mixture of alcohol and ether. To do this, 3 grams (46.3 grains) of pyroxile (gun cotton) are dissolved in 40 cubic centimeters (14.2 cubic feet) of ether and as much of alcohol. Elsewhere are dissolved in 20 cubic centimeters (7.1 cubic feet) of alcohol, 0.3 gram (0.463 grain) of metallic chloride of antimony, and several milligrams^a of oxidizable organic base. To this is added the coloring matter destined to color the silk, and which latter should be soluble in alcohol or ether, not acid nor too changeable (most aniline colors answer these requirements). I employ aniline in quantities of from 6 to 10 milligrams (0.0924 to 0.114 grain). The proportions are not absolute, and may vary, according to the metallic chloride of antimony, and the elasticity which is sought. The two solutions are mixed, and allowed to repose until the reaction is complete. This liquid is called the mother of silk. It is introduced into a receptacle, where an air pump can provide a pressure of several atmospheres. In the lower part of this receptacle there are as many "filières" as it is intended to produce of single threads at a time. Each filière is formed of a glass capillary tube, with a diameter of one-sixth of 1 millimeter. These filières may be several centimeters, or perhaps several millimeters^b in length. Within the receptacle is a small brush, which periodically passes across the interior point of these "filières" or threads, in order to remove solid or viscous particles, which might prevent the free flowing of the liquid. The "filières" terminate in water contained in a basin having several centimeters of surface.

As soon as the mother solution comes into contact with the water it solidifies. The thread originally formed in the hollow glass cylinder enveloping the liquid column may then be drawn from the water by continuous movement and dried in the air. The interior pressure and the speed of the movement of withdrawal are regulated in such manner as to obtain a solid and brilliant thread, having a diameter of the thread of a cocoon.

The mechanical arrangements adopted in order to gather these threads are as follows:

The "filières" rest lightly upon a cylinder covered with a soft substance, such as felt or rubber, this cylinder reposing in a basin partly filled with water, and being turned by a uniform movement. The

^a 1 milligram = 0.0154 grain.

^b Centimeter = 0.3937 inch; millimeter = 0.0394 inch.

thread, taken up at the moment when it forms by coagulation, is drawn by the rotation of the cylinder in such manner that it passes through the water, and then leaves the cylinder to enter the drying apparatus. If an interruption takes place in the process, the liquid silk forms a sort of button at the orifice of the "filières," and is then drawn upon the cylinder. The fine, perfect threads unite by capillary attraction, or, if this attraction be insufficient, a certain amount of mucilaginous matter is added to the water through which the cylinder passes, thus facilitating the assembling of individual threads. The reunion of the simple threads in clusters may be accomplished in several ways. They may be passed between the teeth of a comb, or in the second place against the cylinder a series of fixed guides in the form of funnels may be applied, each one gathering up two, three, or four threads as they come into contact with the narrow orifice of the funnel. It is to be remarked that the freshly made threads are accompanied and carried by the currents of water in which the cylinder revolves.

The mechanism described is inclosed in a hermetically sealed case, with the exception of the exhaust tube conducting the vapors to a condenser, and the eyelets by which the threads pass into a warm-air drying chamber, in which they circulate during the time necessary to completely solidify.

The dry threads are combined in the number desired, and rolled upon bobbins rotating with a double movement, in such manner as to twist them sufficiently for the weaving. The device is similar to that employed in emptying cocoons, with the exception that the drying chamber is constructed upon special principles. The drying chamber is composed of two vertical closed chambers, communicating with each other. The chamber in which the threads circulate, and in which the bobbins are lodged, is heated, while the second vertical chamber is chilled, either by a current of water or by a cold-producing machine. The air rises from the warm chamber in which the threads are dried, and the vapors condense in the cold branch, the same air circulating indefinitely, and transporting the liquids from the threads to the condenser. The water is separated from the alcohol and ether either by congelation or by rectification.

The alcohol and ether need not necessarily be separated, and may be used indefinitely upon receiving a renewal of the pyroxile. By introducing into the drying chamber an inert gas it will be possible to employ dissolvents, such as methylene, which are too oxidizable in air.

M. de Chardonnet's first additional certificate, obtained in 1884, provided for the impregnation of the woven threads in a basin containing a hydrometrical or antiburning preparation as a means of rendering the fabric incombustible. The second certificate, dated May 7, 1885, provided that the basin just described might be reduced to a glass tube enveloping the "filières," and designating the preparation to be used in impregnating the newly made silk thread. The preparation consists of a mixture of gelatin, glycerin, and sugar.

After the Paris Exposition of 1889, when the de Chardonnet mills obtained a grand prize, the inventor took out a new original patent. He then described artificial silk as composed essentially of dissolved nitrated cellulose, which being projected into another liquid, which

coagulates the first, results in the instantaneous formation of a thread which may be collected and treated like the thread of a cocoon. In order to diminish the combustibility, he provided in this rearranged process for the removal of a portion of the nitric acid by dissociation and absorption at the same time by the thread of various saline coloring matters. The solvent is described as a mixture of 40 per cent of ether and 60 per cent of alcohol. The pyroxile is first dissolved in equal parts of alcohol and ether, to which is then added the excess of alcohol. This new certificate contains the design of a new spinning machine.

The following are briefly expressed descriptions of the additions to this new certificate of invention: (1) September 12, 1889, providing for the use of a bobbin, which may be used in the weaving process; (2) January 9, 1890, to recover the vapors of the dissolvent; (3) January 25, 1890, providing for better ventilation in the condensers, making it possible to open the machines frequently without danger.

M. de Chardonnet obtained a third patent November 5, 1889, for the industrial preparation of pyroxiles, and reducing to a minimum the expense for acids, and in obtaining pure pyroxiles. To this patent he obtained two additional certificates. January 16, 1890, a patent was procured for a method of totally denitrating pyroxiles, to which several additional certificates were added.

VISCOSE ARTIFICIAL SILK PROCESS.

Cellulose under its different forms is attacked and dissolved by certain reagents some of which result in the production of a chemical modification, more or less profound, while others appear to bring about a solution without any sensible modification. One of the solutions of cellulose, that produced by a solution of ammoniac of copper, has received important technical applications, but very limited, because of the nature of the solvent and the cost of production. The British chemists and manufacturers Cross, Bevan & Beadle have discovered and patented both in Great Britain and in France a method of dissolving cellulose in a very simple manner by means of reagents of low cost, and yielding a product susceptible of a great number of useful applications. It is known that when cellulose, in its fibrous forms, is treated by a solution of caustic alkalis, the effect of 'mercerization' is obtained; the fibers swell and become transparent as a result of their combination with alkali and water. If this combination of cellulose with alkali and water is exposed to the action of bisulphide of carbon, an increase in the swelling of the fibers of the cellulose takes place until they become almost gelatinous, and in this state the product is extremely soluble in water. The solution thus obtained is yellow and extremely viscous, from which fact the word "viscose" has been applied to the artificial silk thus produced.

The Société Française de la Viscose, which has been mentioned before, obtained on August 8, 1903, a French patent for perfecting the manufacture of viscose threads. The raw viscose is charged with a considerable quantity of alkaline sulphurets, which, when the viscose is treated for the separation of the cellulose by ammoniacal salts, react with these salts and provoke the formation of volatile ammoniacal compositions, such as sulphide and hydrosulphate of ammonium. When a thread is formed of filaments produced in these conditions, the filaments, twisted and entangled, adhere to each other and form hard or stiff threads. The patent of 1903 avoids this inconvenience in passing the thread on leaving the ammoniacal baths into a solution of a salt of a metal which forms an insoluble sulphide under the action of sulphides or alkaline hydrosulphides.

For example, the company employs a 10 per cent solution of copperas, which produces the precipitation of the most of the sulphur present in the form of sulphide or hydrosulphide in the state of pyrites. The ammonia combines with the radical acid and the iron salt. The suppression of the sulphide of ammonium is an advantage. The threads are better and softer to the touch. The conversion of viscose into threads follows in its principal lines the processes heretofore described.

It is claimed that viscose has some special properties. The preparations with which cotton, linen, and jute threads, tresses, and ribbons are covered for the manufacture of passementerie, principally, are generally composed of glutinous mixtures of starch, dextrine, gelatin, or wax. These preparations resist water very slightly and are colored before being applied. The application of viscose upon these same materials supplies a coating which resists water, heat, and chemical agents, and provides a homogeneous and brilliant surface. A stiffness is also obtained identical with that of animal silk. The application welds itself with cotton or other threads which it covers. The company operating under the name mentioned has obtained a number of patents, the latest of which is dated August 4, 1904. The mill of the company is located at Arques, Pas de Calais.

ACKNOWLEDGMENT.

The foregoing is doubtless lacking in many important respects as an exposition of the processes of the manufacture of artificial silk in France, but embodies a sufficient number of facts to indicate the route followed by European inventors. For my technical information I am indebted to the bulletin of M. P. Willems, whose account of "la soie artificielle" is one of the bulletins of the Bibliothèque d'Actualité Industrielle.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, *January 24, 1905.*

VESSEL TONNAGE MOVEMENT AT THE PRINCIPAL PORTS OF THE WORLD.

The following statement, showing the vessel tonnage movement of the principal ports of the world—foreign-trade tonnage entered and cleared—for the years named, was compiled in the Bureau of Statistics, Department of Commerce and Labor, from official sources. The figures represent mostly metric tons of 2,204.6 pounds:

Ports.	Year.	Entered.	Cleared.
EUROPE.			
Great Britain:		<i>Tons.</i>	<i>Tons.</i>
Cardiff.....	1908	4,968,907	8,190,249
Hull.....	1903	2,631,778	2,055,140
Liverpool.....	1908	7,817,060	6,682,500
London.....	1903	10,968,739	8,104,990
Tyne ports.....	1908	3,788,626	5,232,501
Glasgow.....	1903	1,560,432	2,736,122
Malta (Valetta) ^a	1903	3,594,274	3,500,994
Gibraltar.....	1903	3,896,623	3,672,440
Germany:			
Hamburg.....	1903	8,244,660	8,450,132
Bremen.....	1903	2,709,744	2,678,800
France: ^b			
Havre.....	1904	2,382,646	1,834,100
Bordeaux.....	1904	982,503	677,230
Dunkirk.....	1904	1,277,586	808,410
Marseille.....	1904	5,061,912	4,645,400
Belgium:			
Antwerp.....	1903	9,073,021	9,104,750
Netherlands:			
Rotterdam.....	1903	6,934,760	6,662,460
Italy:			
Genoa.....	1903	3,776,659	3,113,730
Russia:			
St. Petersburg (Cronstadt).....	1903	1,347,898	1,355,410
Odessa.....	1903	1,826,465	1,713,300
Riga.....	1903	1,111,033	1,121,840
Spain:			
Barcelona ^c	1903	1,860,713	1,374,090
Bilbao ^c	1903	2,060,817	2,134,400
AMERICA. ^d			
United States:			
New York.....	1904	9,236,624	8,700,700
Boston.....	1904	2,713,371	2,250,870
Philadelphia.....	1904	1,712,062	1,728,210
Baltimore.....	1904	1,246,713	1,290,270
New Orleans.....	1904	1,475,467	1,599,440
Puget Sound.....	1904	1,171,554	1,355,130
San Francisco.....	1904	876,090	1,014,440
Argentina:			
Buenos Aires.....	1902	3,389,254	3,104,160
Brazil:			
Rio de Janeiro ^e	1902	2,632,231	2,622,550
ASIA.			
British colonies:			
Hongkong-Victoria ^f	1903	9,612,292	9,592,500
Singapore ^g	1903	6,011,257	5,997,600
Colombo ^h	1903	4,739,286	4,701,100
China:			
Shanghai.....	1903	6,179,554	6,162,900

^a Figures for the year ended March 31 1904.

^b With cargoes only.

^c Figures include the tonnage of vessels engaged in the foreign trade calling at several ports in the course of the same voyage, the tonnage of such vessels being taken account of at the port of call.

^d Year ended June 30.

^e Foreign and coastwise.

^f Exclusive of Chinese junks engaged in the foreign trade. The tonnage of these vessels entered and cleared in 1903 was 965,890 and 974,400, respectively.

^g Exclusive of war ships, transports, native craft, and vessels under 50 tons, but inclusive of vessels engaged in trade between the Straits Settlements.

^h Exclusive of the tonnage of vessels that called for the purpose of coaling and for orders only.

Ports.	Year.	Entered.	Cleared.
ASIA—continued.			
Japan:		<i>Tons.</i>	<i>Tons.</i>
Yokohama	1908	2,545,292	2,490,397
Nagasaki	1908	2,007,153	2,007,052
Kobe	1908	3,864,587	3,840,565
Moji	1908	3,577,758	3,567,916
AFRICA.			
Cape Town ^a	1908	3,776,712	3,388,473
OCEANIA.			
Australia:			
Melbourne ^b	1908	3,252,702	3,234,588
Sydney ^b	1908	3,348,966	2,585,446

^a Figures, so far as they relate to steam vessels, represent gross tonnage, and are inclusive of transports carrying stores, but exclusive of those carrying troops.

^b Including interstate shipping.

NOTE.—The considerable differences between the figures of tonnage entered and cleared at most British ports are due mainly to the fact that vessels arriving in the foreign trade at one port, after discharging their cargo and receiving part of their return cargo, prior to starting on their return voyage, touch at some port, e. g., Cardiff, for coaling or supplementary cargo, and receive their foreign clearance at this latter port.

FOREIGN TRADE OPPORTUNITIES.

Under date of January 19, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, transmits the following notes relative to trade opportunities in foreign countries, gleaned from German sources:

ELECTRIC SUPPLIES AND WORKS.

British South Africa.—The British and South African Export Gazette states that the following municipalities in British South Africa contemplate the erection of electrical plants: Heidelberg, for lighting and waterworks; Bloemfontein, tramway; borough of King Williamstown, lighting; Greytown, near Durban, lighting; Klerksdorp, lighting; Gwelo (Rhodesia), lighting.

Benjamin Hampson and W. W. Cato, of Durban, Natal Colony, will apply to Parliament for a concession to build an electric tramway from Hillarys to Bellair estate and to supply that region (suburb of Durban) with electric power and light.

Egypt.—The Metropolitan and Cairo-Helwan Railway Company has received a concession for erecting an electric plant to furnish light for the town of Helwan. The Mansura Electric Supply Company has been awarded the contract for the electric lighting of the town of Mansura.

Germany.—The building of "electric rapid-transit railroads" is projected between Cologne and Düsseldorf, and from Frankfort-on-the-Main to Wiesbaden.

Great Britain.—The electric central station at Wimbledon, London, is to be greatly enlarged.

The electric tramway system in Glasgow is to be largely extended.
Italy.—The city of Turin is to negotiate for a loan of \$4,800,000 for the purpose of erecting electric works.

Russia.—Professor Sultanow, the chairman of the technical committee for the construction of tramway lines, examines and passes on all applications and plans for projected street railways in Russia. In cases where such enterprises are projected the professor, who is attached to the ministry of interior at St. Petersburg, may be able to give information to parties desiring to furnish tramway construction supplies, rolling stock, etc.

Spain.—A tramway line is to be built in Gijon.

The municipality of Arenas de San Pedro intends to install electric lighting.

Switzerland.—The Swiss Government has granted a concession for the building of an electric narrow-gauge railroad from Meiringen to Gletsch.

HARBOR WORKS.

Chile.—The Chilean Congress has passed an act granting \$12,850,000 for new harbor works at Valparaiso (bids are to be handed in within the next twelve months) and \$4,465,000 are to be expended on new harbor works in the port of Talcahuano. The Ministerio de Marina at Santiago is able to furnish particulars.

Spain.—Harbor improvements are to be made in Torrevieja.

RAILWAYS AND RAILWAY SUPPLIES.

Argentina.—The Empresa del Ferrocarril del Sur has obtained a concession to build a railroad from General Guido to Establecimiento Juancho.

Netherlands.—The ministry of the colonies of the Netherlands at The Hague will receive bids for supplying the iron work for railroad bridges, rails and ties, cranes, water mains, water tanks, etc. A detailed description is to be found in a pamphlet issued by M. Nijhoff (bookstore) The Hague, Netherlands.

Nicaragua.—A railroad line is planned in Nicaragua to run from San Migueleto to Monkey Point, a distance of 116 miles.

Spain.—The Santander and Bilbao Railway Company will construct a double track on the line from Santa Agueda to Irauregui.

Switzerland.—The department of State railroads will construct a railroad from Brienz to Interlaken at an estimated cost of 5,500,000 francs (\$1,061,500).

ARTIFICIAL SILK FACTORIES.

Italy.—A factory is about to be constructed in Pavia for the purpose of manufacturing artificial silk by a joint stock company under the firm name "Società Italiana della Seda Artificiale." The working capital will be 2,400,000 francs (\$463,200).

Mexico.—A London paper states that a factory is to be established in Mexico which will manufacture artificial silk. The company starts with a working capital of \$1,000,000.

SEWERAGE, COLD STORAGE, AND WATERWORKS.

Argentina.—Two extensive cold-storage plants are projected in Buenos Aires. Manufacturers supplying machinery, etc., for such establishments may submit offers to Francisco Seeber, Calle Paraguay y Avenida Rosales, and to Exequiel Ramos Mejia, Buenos Aires.

Austria.—The town of Friedland, Bohemia, Austria, intends to erect waterworks.

Servia.—Belgrade, the capital of Servia, is to have a sewerage system, the cost of which will amount to about \$2,500,000.

COPPER WANTED IN ITALY.

The Direzione dell' Officina di Costruzione d'Artiglieria in Turin, Italy, is open for the purchase of 2,600 metric tons of copper in blocks.

MERCHANT MARINE OF NORWAY.

(From United States Consul-General Bordewich, Christiania, Norway.)

According to the last official statistics, the number of ships and net tonnage of the Norwegian merchant marine were as follows at the end of the years 1900, 1901, 1902, and 1903:

Merchant marine of Norway at the close of the years 1900 to 1903.

Year.	Steamships.		Sailing vessels.		Total.	
	No.	Registered tonnage.	No.	Registered tonnage.	No.	Registered tonnage.
1900	1,171	505,443	5,642	1,002,675	6,813	1,508,118
1901	1,223	531,142	5,445	935,947	6,668	1,467,089
1902	1,290	567,161	5,569	883,955	6,859	1,451,116
1903	1,396	603,625	5,807	840,279	7,203	1,443,904

The following statement shows the service in which the merchant marine was employed in 1903:

Employment of the Norwegian merchant marine in 1903.

Employment.	Steamships.		Sailing vessels.		Total.	
	No.	Registered tons.	No.	Registered tons.	No.	Registered tons.
Foreign trade	876	579,865	2,111	758,010	2,987	1,337,875
Coast trade	466	21,164	3,591	76,341	4,057	97,506
Arctic fisheries	54	2,596	105	5,928	159	8,524
Total	1,396	603,625	5,807	840,279	7,203	1,443,904

The tonnage of the principal ports of Norway in 1903 was as follows: Bergen, 194,341; Christiania, 171,900; Stavanger, 75,680.

The losses by shipwreck in 1903 were: 26 steamers of 14,697 tons and 159 sailing vessels of 68,003 tons; total, 185 vessels of 82,700 tons. The ships purchased abroad and new ships constructed at home during 1903 numbered 94 steamers of 25,728 tons and 113 sail ships of 3,213 tons; total 207 of 28,941 tons. The gross income from ships engaged in foreign trade in 1903 has not as yet been ascertained; for the year 1902 the amount was \$29,700,000. About 82,000 persons are dependent on shipping for a living, directly or indirectly, in Norway. Norwegian marine insurance companies carried risks on Norwegian ships to the amount of \$55,000,000 in 1903.

Quite a number of Norwegian ships are permanently employed in the American fruit trade, others are employed, under time charters, in the Far East. Several tramp ships are still in the general freight trade. Regular steamship communication is maintained under the Norwegian flag with the following foreign ports: Gottenborg and Stromstad; Königsberg, Danzig, Hamburg, and Bremen; Amsterdam and Rotterdam; Antwerp; London, Newcastle, Middlesbrough, and Grangemouth; Havre, Rouen, and Bordeaux; Bilbao; and Genoa.

The Norwegian Government pays no subsidies to its shipowners. Most of the foreign mail comes and goes by rail over Sweden; but a part of it is carried by Norwegian steamship lines at a stipulated annual compensation. The total amount paid for carrying foreign mail is \$125,000, of which the larger share goes to the line between Bergen and Newcastle, which is under contract to make regular trips thrice each week. While no regular subsidies are paid, this line, and the lines connecting Norway with ports in southern Europe are partly maintained for the purpose of facilitating export of the country's products. Foreign parcels post is mostly carried by Norwegian steamers to Hamburg and Antwerp. For maintaining the local mail routes along the stormy northern and western coast the Government pays annually about \$270,000, including service by local steamers and by open boats, mostly in Norway and Finmarken.

Freight rates are still low and unsteady. The shipowners, except those who have their ships engaged in established routes, are far from satisfied, either with the accomplishments of the past year or with the prospect for the future.

HENRY BORDEWICH, *Consul-General*.

CHRISTIANIA, NORWAY, *January 13, 1905.*

PROPOSED TRAMWAY IN NANKIN, CHINA.

(From United States Vice-Consul Gracey, Nankin, China.)

I have recently been in consultation with the viceroy of the Liang-kiang provinces as to the advisability of starting an electric or other tramway at the city of Nankin.

All steamers coming to this city must anchor at Hsiakuan, a small village on the river bank, about half a mile outside the city wall, and 5 or more miles from the crowded business portion of the city. Within the last few years a well-made macadamized road has been completed, 9 or more miles in length, but the only means of transportation are donkeys, horses, jinrickshas, or very poor and expensive carriages. Chinese desiring to leave Nankin for Shanghai, or vice versa, are obliged to spend more for their transportation from Nankin to Hsiakuan than for the thirty-six hours' steamship journey from Hsiakuan to Shanghai.

The viceroy does not believe that an electric line could be made to pay, but he seemed impressed with the idea of tram cars drawn by Chinese ponies, which can be purchased very cheaply at this port.

I have to request that this matter be placed before such American manufacturers as may be interested, in order that estimates may be prepared which can be placed in the hands of the viceroy. The population of Nankin is about 300,000, and I believe, if properly conducted, a line owned and managed by Americans would pay. Five years ago there were practically no roads in this city, all conveyance being by animals or wheelbarrows. Now many good roads have been completed and others are in process of construction. The viceroy is enlightened and progressive, and I believe that now is the opportunity to introduce such schemes as that under consideration.

WILBUR T. GRACEY, *Vice-Consul.*

NANKIN, CHINA, *January 5, 1905.*

CANADIAN NOTES.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

OIL BOUNTY.

As a result of the change in oil duties in June, 1904, there has been a heavy falling off in the imports of oil into the Dominion, and a notable increase in the production of Canadian wells. Up to December 1, 1904, applications for bounty had been received from 365 producers. The bounty claimed amounted to \$123,088, representing 18,483,200 gallons of oil pumped from wells and delivered to refineries or storage tanks.

MINERAL DISCOVERIES.

The inspector of mines for Quebec has reported an important new district for mining investigation and development, situated 200 miles northwest of Lake St. John and within 100 miles of the probable route of the Trans-Continental Railway. The discoveries include copper ore, magnetic iron ore, gold, and asbestos, the deposits of asbestos being reported as particularly extensive.

DOMINION EXHIBITION.

The Dominion government has decided to give a grant of \$50,000 to a Dominion exhibition to be held during the coming summer at New Westminster, British Columbia. Part of the grant will have to be expended in paying freight on exhibits from other provinces.

INDIAN POPULATION OF CANADA.

According to the most recent reports of the department of Indian affairs, Ottawa, the Indian population of Canada is at present 109,956, which is 275 less than in 1903; but an increase of more than 8,000 is shown for the past decade.

W. R. HOLLOWAY, *Consul-General*.

HALIFAX, NOVA SCOTIA, *February 1, 1905.*

PRACTICAL TESTS OF MOTOR CARS.

(*From United States Consul Halstead, Birmingham, England.*)

For purposes of ascertaining the efficiency of machinery and tires, consumption of gasoline, and other points of practical interest concerning the working in actual use of motor cars, the Automobile Club, a national organization, offered some months ago to supervise trials of individual motor cars for from 4,000 to 5,000 miles. The trials were to be carried out under the care of officials selected by the club, who would note the cause and duration of all involuntary stops, and report the general behavior of cars under severe use upon the road. A number of motor cars have undergone the test, and one light car and one motor omnibus are now making 5,000-mile runs. So far, none of the manufacturers who submitted their products have had cause to regret the risk they took in the reputation, etc., of their cars. Owing to the severity of test, doubtless some of the manufacturers will make improvements in minor details.

The accomplishments of cars in touring use can be regarded as of more importance than upon a racing track. The distances covered are about 200 miles per day and the 20 miles legal limit of speed must not be exceeded at any time. The motor cars must be returned at

night to a garage selected by the club, where, after being cleaned and such minor adjustments made as seem reasonable, they are to be intrusted for the night to the keeping of selected officials.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *January 25, 1905.*

COAL SUPPLY AND COAL TRADE OF THE UNITED KINGDOM.

Under date of January 26, 1905, United States Consul-General H. Clay Evans, of London, England, transmits the following article from the London Daily Standard, it being a review of the report of the royal commission on coal supplies of the Kingdom of Great Britain and Ireland:

COAL RESOURCES AND SUPPLIES OF THE UNITED KINGDOM.

The amount of coal available in the United Kingdom is estimated by the royal commission on coal supplies, whose report is published to-day, to be 10,707,382,769 tons in excess of that mentioned by the commission of 1871.

In view of this estimate, and the anticipation that the present rate of increase in the output will be checked by natural causes, it seems to the commission that there is no present necessity to restrict artificially the export of coal in order to conserve it for our home supply.

Various economies in working and consumption are suggested, and, although the commission is unable to point to any real substitute, other possible sources of power are mentioned which may slightly relieve the demand for coal.

AMOUNT OF COAL AVAILABLE.

The commission appointed in December, 1901, Lord Allerton, president, begins its report by stating that it estimates the available quantity of coal in the proved coal fields of the United Kingdom to be 100,914,668,167 tons, which estimate is 10,700,000,000 tons in excess of that of the coal commission of 1871, the excess being accounted for partly by the difference in the areas regarded as productive by the two commissions, and partly by discoveries due to recent borings, sinkings, and workings, and more accurate knowledge of the coal seams.

In arriving at this estimate the commission adopted 4,000 feet as the limit of practicable depth in working, but in addition it estimates that 5,239,432,900 tons is lying at greater depths, which, whether recoverable or not, depends upon the maximum depth at which it may be found possible to carry on mining operations. The geological committee reported that the amount of coal which may be expected to be available in concealed and improved coal fields at depths less than 4,000 feet is 39,483,000,000 tons.

On the question of the possible depth of working, the commission states that the evidence indicates that no insuperable engineering or

mechanical differences are likely to arise in connection with deep workings; and on the question of temperature quotes as an example the deep workings in Pendleton, where, it is said, working is as comfortable when the temperature is about $93\frac{1}{2}^{\circ}$ as it was formerly when it was only 82° .

Continental experts consider 4,900 feet about the limit of working, but, having regard to the circumstances of this country, the commission thinks it safer to regard 4,000 feet as the limit of practicable working.

The commission gives reasons for having taken 1 foot as the minimum thickness for the purposes of its calculations, and, going on to deal with waste in working, assumes that improved methods and appliances may result in the getting of a greater percentage of coal than that which it has estimated to be available.

DURATION OF OUR RESOURCES.

The commission states that the probable duration of our coal resources turns chiefly upon the maintenance or variation of annual output, which is at present about 230,000,000 tons.

For the past thirty years the average increase in the output has been $2\frac{1}{2}$ per cent per annum, and that of the exports (including bunkers) $\frac{1}{2}$ per cent. It is the general opinion of the district commissioners that, owing to physical considerations, it is highly improbable that the present rate of increase of the output of coal—indeed, they think that some districts have already attained their maximum output—can long continue, and, in view of this opinion and of the exhaustion of the shallower collieries, the commission looks forward to a time, not far distant, when the rate of increase of output will be slower, to be followed by a period of stationary output, and then a gradual decline.

POSSIBLE ECONOMIES.

The commission dwells on the advantages of coal-cutting machines, and urges the importance of cleaning, sizing, and sorting coal for the market. Uniformity, it says, is important, and there is no question that a consumer is willing to pay more if he can rely on always getting what his experience has proved to be the best suited for his purposes. Seams which can not now be worked at a profit will in future be rendered profitable by washing, sorting, coking, and briquetting the coal, or converting it into gas, and no small coal need be left in the mine. Large quantities of best Welsh steam coal are left underground in the form of "small," solely because under the present conditions it does not pay to bring it out. It appears that much of this "small," although it is frequently dirty, is of similar quality to that now made into briquettes in south Wales, and the commission looks to washing and briquetting as one of the available methods by which such coal can be brought out and sold to advantage.

A few witnesses suggested that the rates charged in some districts for the carriage of coal are unreasonable, but the opinion of other witnesses was that the railway rates in this country generally were not unreasonable, having regard to all conditions.

The evidence points to a future extension of central power stations, and the generation and transmission of power upon a large scale. If such stations were established in close proximity to the collieries there

would be nothing to pay in the way of railway rates, and the question would then be, not the cost of transport of coal, but the cost of transmission of power. There are still immense economies capable of realization in the raising of steam.

QUESTION OF SUBSTITUTES.

While it is convinced that coal is the only reliable source of power, and there is no real substitute, the commission thinks there are possible sources of power which may slightly relieve the demand for coal. In this connection are mentioned alcohol, used in motors abroad; natural gas, the existence of which has been proved by experimental borings in Sussex; oil, used for high powers on land and water as well as for railway traction, especially in southern Russia, and liquid fuel.

As regards the use of oil fuel in this country, the conclusion at which the commission has arrived is that expressed by Dr. Boverton Redwood:

"I think there will be certain selected applications of liquid fuel where the advantages of employing such a fuel are especially obvious, but for anything like general employment I can not see where we are to look for adequate supplies."

Witnesses anticipate savings from the increase of central stations for the generation and production of power in bulk. The success already attained by such stations in America, on the Continent, and in the United Kingdom makes it appear probable that in towns the smaller consumers will in the future obtain a large proportion of their power in this way. It is also said that central power stations scattered over the country wherever a source of power is available, be it coal, water, heat, or waste gas, will attract to themselves the large users of power,

Economy in domestic consumption is mainly to be expected from the adoption of central heating in houses, the open fire being merely used as supplementary to the general warming by hot-water pipes or stoves, and it is said that on a safe estimate more than half of the present consumption of about 32,000,000 tons per year could thus be saved.

Considerable economy in coal consumption seems to follow from the extended use of the incandescent mantle. The witnesses are agreed that if it were universally used there would be no need for illuminating power in gas, and it would be possible to use water gas or lower power coal gas for incandescent lighting and heating.

IMPORTANCE OF EXPORTS.

On the question of the effect of exports of coal on British consumers and the royal navy, the witnesses generally were of opinion that the maintenance of a large coal export trade is of extreme importance to the country and essential to the prosperity of the coal-producing districts.

In recent years many experiments have been made in the navy with oil fuel, and the results are said to be promising, but the uncertainty of obtaining an adequate and regular supply must always be a serious objection to the substitution on a large scale of oil fuel for coal. There seems, however, reason to believe that in the future oil fuel will be used for auxiliary purposes in men-of-war, and internal combustion engines working with volatile oils have been successfully introduced for the propulsion of small vessels. There is also the proposal to apply gas producers and internal-combustion engines on board ship,

and these being smokeless will tend, if successful, to lessen the use of high-class Welsh steam coal.

Whatever be the outcome of these experiments, the evidence shows that, in the opinion of the advisers of the Admiralty, it is necessary under present conditions to coal the ships of the navy with the best steam coal. The report of Sir William T. Lewis shows that the available resources of first-class Welsh steam coal have been estimated to be approximately 3,937,000,000 tons, the present annual output being about 18,000,000 tons.

COMPETITION WITH OTHER COUNTRIES.

The principal competitors of the United Kingdom in coal production are Germany and the United States. While the output of the United Kingdom has little more than doubled since 1870, that of Germany has increased more than fourfold, and that of the United States no less than tenfold. All other countries have also greatly increased their outputs.

While these large increases of output have been taking place in foreign coal fields, the cost of working has steadily increased in the United Kingdom, thus affecting our competitive power. Improved appliances and methods have enabled the colliery owners to some extent to keep down costs, but none the less the cost of working has steadily increased, and for various reasons, such as the necessity of working thinner and deeper seams, the increased cost of labor due to shorter hours and higher wages, and additional expenditure due to local taxation and to government and parliamentary requirements.

The volume of our coal export trade has steadily increased during the last thirty years, and the rate of increase in our exports has been greater than that of our total output. Markets have been lost for different reasons, and some of them possibly permanently, but the exports to other markets have so increased that the losses are obliterated, and a steady upward movement has been maintained practically throughout the period. Of the markets lost some are now supplied from local sources and some from other coal fields whence they can obtain cheaper coal.

EFFECTS OF THE COAL TAX.

On the subject of the coal tax the commission says:

"It is self-evident that the export duty which came into force in the early part of 1901 must affect our competitive power and must have an influence on the exportation of coal. We have had evidence from witnesses representing coal owners and coal exporters, and also from shipowners. These witnesses expressed strong opinions against the tax, which they believed was diminishing and would diminish the export of coal, and consequently injure their trading power, and this view was supported by several of the British consuls resident on the Continent, where the business in British coal is considerable. Since the imposition of the tax, while the volume of exports excluding bunker coal has increased, the rate of increase of previous years has not been maintained.

"The statistics show that the exports to some markets, notably France, Belgium, and the Netherlands, have been reduced, especially

for coal from the Swansea and Llanelly districts and from the Humber ports. It is difficult to resist the contention that the tax had some effect in reducing the tonnage exported in 1901, although it is probable that the high level of prices, which was still maintained, and the declining condition of trade, both at home and abroad, had some influence on the figures. The total output of coal in 1901 in the United Kingdom was less by 6,000,000 tons than in 1900, but it should be noted that the home consumption in 1901 was 5,500,000 tons less than it was in 1900. It should not be overlooked that the coal exporter has had the advantage of much lower export freights for coal in 1901 and subsequently than prevailed in 1900, and this must have mitigated the effect of the tax to a large extent."

BRITISH COMMERCE AND INDUSTRIES IN 1904.

(From United States Consul Mahin, Nottingham, England.)

GENERAL TRADE STATISTICS.

The statistics of the trade of Great Britain in 1904 have now been sufficiently collated and analyzed to make intelligent survey and comparison possible. The exports of British goods were the largest on record, amounting in value to £300,817,897 (\$1,463,930,295). The imports were also the greatest on record, viz, £551,362,000 (\$2,683,203,673). The increase of exports since 1903 was £10,017,789 (\$48,751,569). These are the official Government board of trade returns, but they fail to show the proportion of exports to the British colonies, either in the total or in the increase. This is a vitally important item, without which it can not be ascertained whether British trade with foreign nations has increased or declined. It is stated that the analysis of exports to disclose this fact can not be completed for several months.

Advocates of the continuance of the present free-trade system accept the figures in bulk as sustaining their contention. On the other hand, advocates of the protective policy carefully analyze the export items and declare that they show not an increase but an absolute decrease when volume and character of goods exported, the interests of the producers, and the growth of population are considered; that, omitting consideration of population, the volume of exports is stationary; this without reference to the unknown proportions taken respectively by the colonies and foreign countries. The fiscal reformer points out that while there was a slight decline in the price of some exported articles, the increase in price of the largest group of exports—manufactures, especially cotton goods, caused by the increased price of the raw material—was so great as to counterbalance the lower prices of other things and also to entirely cover the gross increase in export values.

On the whole, the fiscal reformer says that he sees no cause for discouragement in the export returns for last year. Should the final analysis show that British exports to foreign countries with protective tariffs declined in 1904 (and it is feared that this may be the case) his position would be still stronger. On one point, at least, the evidence sustains his contention. He says that any increased value of manufactures exported would indicate no benefit to the producer, either employer or employed, for such increase was wholly due to the higher price of raw materials. This argument is apparently sustained by the great increase in the number of unemployed trades-unionists in 1904. For the past six years a regular annual increase of the unemployed has been noted, amounting to a fraction of 1 per cent. But last year the increase was nearly double that of any preceding year of the period. This, of course, may have been caused by the dull home trade, but the extent of that is so difficult to determine that the fiscal reformer at the present moment seems well fortified in his position that decline in the volume of exports is responsible for the additions to the idle population in 1904.

Another alleged fact discovered by the tariff reformer in analyzing the imports for 1904 is that (contrary to the case with the exports) the largest group of manufactures showed a decreased price in comparison with 1903. Thus, while enhanced prices of certain exported articles accounted for the increased value of the exports as a whole in 1904, the reduced prices of certain imported articles established the fact, apparently, that imports as a whole increased not only in value but also relatively still more in volume.

BRITISH INDUSTRIES IN 1904.

Depression in house and ship building made 1904 a very unsatisfactory year for the iron interests. Great Britain's iron and steel product amounts annually to about \$800,000,000, and the industry employs about 1,400,000 people. The building trades employ some 1,200,000 people. The number engaged in shipbuilding is not definitely stated, but it must be large in order to produce the great annual tonnage output. In 1904 this amounted to 1,405,633 tons, against 1,434,256 tons in 1903. The immensity of this output can best be realized by noting that all the rest of the world produced but 1,075,869 tons in 1904 and 1,270,525 tons in 1903. Another fact is discovered by comparing these figures: Great Britain's tonnage output declined only 2 per cent in 1904; that of the rest of the world declined 15.3 per cent. The dullness in the great correlated industries—iron, building, and shipbuilding—goes far toward accounting for the general depression in British home trade in 1904.

WHEAT AND FLOUR IMPORTS.

Remarkable changes occurred in 1904 in Britain's sources of wheat and flour supplies. Imports of wheat from the United States fell from 24,197,895 hundredweight (45,169,404 bushels) in 1903 to 7,090,700 hundredweight (13,234,307 bushels) in 1904. Imports from Russia rose from 17,176,300 hundredweight in 1903 to 23,529,500 hundredweight (32,062,443 to 43,921,733 bushels) in 1904, and nearly the same figures apply to Argentina and the British East Indies. Imports from Australia rose from 26 hundredweight to 10,272,600 hundredweight (48½ to 19,175,520 bushels), but those from Canada fell from 10,802,127 to 6,195,300 hundredweight (20,163,970 to 11,564,560 bushels).

Flour imports from the United States fell from 16,223,639 hundredweight in 1903 to 8,252,602 hundredweight (9,270,651 to 4,715,671 barrels) in 1904. But as the total flour imports fell from 20,601,448 hundredweight in 1903 to 14,722,893 hundredweight (11,731,440 to 8,413,082 barrels) in 1904, the decline in the share of the United States was due less to a shifting of orders to other countries than to a general decrease in the imports. The case was different with wheat, the gross imports of which increased 12 per cent in 1904, while the imports from the United States decreased nearly 75 per cent.

OUTLOOK FOR 1905.

A very hopeful feeling is expressed in the newspapers, by editors and contributors, as to the prospects for the new year, but this is not universally echoed by men actively engaged in trade. Every optimist points first to the renewed activity in the cotton industry of Lancashire, due to the recent fall in the price of raw cotton. This industry is so broad, covering as it does the spinning of yarns used in factories all over Britain as well as the weaving of cloth, that it is an essential part of the foundation—it might be called the corner stone—of British prosperity.

The outlook is dubious, however, where wool is concerned. It continues dear, and great uncertainty prevails as to the source of future supplies. Drought in Australia has made that country unreliable, and hope is now looking toward Argentina. Failure there would perhaps mean calamity to Britain's wool industries.

Prospective improvements in the iron business are inferred from the fact that while for the entire year 1904 British exports of iron and steel products declined, there was a material excess in the exports for the month of December over those of December, 1903.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 16, 1905.*

CHINESE FRUITS.

(From United States Consul Anderson, Hongchow, China.)

The somewhat crude fruit products of the Middle Kingdom are unsatisfactory and disappointing to most foreigners used to the highly developed fruits of America or Europe. There are some, however, which are of considerable merit, and there is no question that a judicious crossing with fruits from other countries would benefit them considerably. One advantageous feature about Chinese fruits is in their keeping quality, as a rule. This is especially true of pears and oranges.

Berries are few and poor. Near foreign settlements, as at Shanghai and Peking, the strawberry has been introduced and is cultivated by the Chinese gardeners with a patience which is never seen in the United States and seldom in Europe. The strawberries thus cultivated are fairly good. A few other foreign berries have been introduced, but so far they are experiments. The Chinese seem to have no native berries worthy of mention, although in the country districts some are used by the poorer classes.

Practically all parts of China have peaches of varied qualities, but only in the north do they approach the foreign standard.

The Chinese cultivate a number of varieties of native grapes, the small sort being made into the well-known Chinese raisins. In north China, near Chifu, the varieties of grapes introduced by American missionaries about ten years ago are doing well and the product is very satisfactory, although it lacks the fine flavor of the American grape. These grapes are shipped over considerable territory, especially along the coast.

Chinese apples are soft and tasteless, lack juice, flavor, keeping quality, and almost every other good point. The Chifu apples, introduced from the United States and cultivated according to American methods, are very fair, but they have a tendency to water core and do not keep as well as the same varieties at home in similar temperature. Possibly apples grown and kept on some of the hills back in the interior will do better, and experiments are now being conducted in that direction.

The Bartlett pears introduced at Chifu are of good flavor and size and form a fine table fruit as long as they last. But foreign pears in China do not keep and the stock shows signs of rapid deterioration. The Chinese pears are comparatively small and more or less "woody." Their flavor uncooked is almost nil, and they have few attractions for those acquainted with them, but are fair food when cooked. They keep indefinitely—under proper conditions, most of the winter. They are of first-class appearance, and if crossed with foreign pears of high flavor could probably be developed into a very fine fruit.

Chinese cherries are poor and their season is short. Efforts are now being made to introduce foreign varieties in northern China.

The persimmon is highly esteemed in China by natives and by many foreigners. It has the characteristic flavor of the American persimmon, except that there is less of possible astringent qualities about it. It grows large and has strong merit as a keeper. Near Peking the most popular sorts of persimmons have rings or grooves near the stems which give them the appearance of having had strings tied around them when small and of having grown around the strings. The varieties in the central and southern portions of the Empire are smooth, grow very large, and are very handsome. Some persimmons are picked green by the natives and ripened in lime. Thus ripened they are less wholesome, perhaps, than otherwise, but they have a firmness of flesh which many people esteem.

Probably the best all-round fruit in China is the pomelo. It is grown in the south-central and southern provinces, and is said to be the original citrus fruit. It resembles the grape-fruit of the United States in size, shape, color, and somewhat in flavor, being sweeter than grape fruit, with less of the bitter quality, with flesh more perfectly separated in the sections, and capable of being pulled apart and separated from all surrounding sacs or membranes. The natives cut through the peel about one-third of the way from the top, crimping the edge of the section all the way round the fruit, then remove the flesh, tear the sections apart, replace them in the peel, and serve thus divided and prepared. The fruit is attractive, refreshing, wholesome, and comparatively cheap, good-sized pomelos being obtainable in Shanghai, Hangchau, Ningpo, Hankau, and similar ports, in season, for \$1 Mexican (46 cents) per dozen. Generally speaking, the pomelo seems to be a cross between a grape-fruit and a good orange, but it is more hardy than either. It has better keeping qualities than the orange, and American horticulturists ought to give it their attention.

Chinese oranges are of great variety. There are small and large Mandarin oranges, neither kind being very attractive to foreigners, although they have the merit of growing farther north than American oranges. There are several small varieties, having good flavor, but very many seeds. The larger are of fair flavor and have fewer seeds. The best oranges grow in the southern provinces along the seacoast. The Fuchau or Swatau orange resembles the Florida seedling in size, shape, appearance, and somewhat in quality. It is slightly more acid, but is a very pleasant and satisfactory fruit. It has good keeping qualities, and is shipped over most of China without cold storage of any kind.

Bananas are raised in the southern provinces and are now being shipped to most parts of the Empire. They are of good flavor and fair size, and keep well.

All Chinese fruits are picked green and ripened off of the plant. The Chinese farmer is too anxious to sell his crop or too much afraid of thieves to wait until the fruit is properly ripened. Methods of packing and shipment are very crude. Much of the fruit is handled in bags and in bulk, some of it in bamboo wicker baskets, but ways of marketing are being bettered under foreign supervision and in imitation of foreign methods.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *December 12, 1904.*

TRADE OF NOTTINGHAM IN 1904.

(*From United States Consul Mahlin, Nottingham, England.*)

EXPORTS TO THE UNITED STATES.

The export trade of this consular district was not materially different in 1904 and 1903. Some articles showed decreases, but the export of lace, the principal product, increased in value from \$16,400,000 in 1903 to \$17,300,000 in 1904. Shipments to the United States, however, showed a marked decrease. The total value of exports to the United States declared at this consulate in 1903 (the record year) was \$6,695,825; in 1904, \$5,692,087. The chief article of export is lace, of which the declared value in 1903 was \$5,006,042; in 1904, \$4,281,449. The value of other principal exported articles, hosiery and machinery, declined in about the same proportion. The cause of the decline was generally presumed to be the Presidential campaign, as lace was in fashion and the other articles were staples. However, both the consular agencies in this district showed an increase in value of exports in 1904—Derby from \$1,118,707 to \$1,240,637, and Leicester from \$289,898 to \$322,706. The principal exports from Derby are ale, colors, and salted sheepskins, and from Leicester hosiery and gloves, seeds, and elastic webs. Why the Presidential campaign did not depress the exports from the agencies is explained by the supposition that they were not of a kind to be affected thereby.

DOMESTIC TRADE.

The home trade in the products of this district was almost uniformly worse in 1904 than in 1903. A marked feature was the particularly small demand for the better and the larger demand for the poorer qualities of goods. The net result to manufacturers was less "turn-over" and less profits, though in weight and bulk the product in some lines was greater than in 1903. Generally speaking, unceasi-

ness and depression were the prevailing conditions in manufacturing circles throughout the year 1904.

Coal mining in this district showed a slight improvement in 1904, and in the closing weeks of the year a very decided improvement. The average working time per week has been materially increased, and new mines have been opened with all the latest appliances.

There is hope that the chief industry—lace—will be substantially revived by increased sales to the United States, and the declared exports so far this month encourage that hope. Hosiery makers are cheered by the change of conditions in cotton-yarn spinning, as well as by the fact that wholesale purchasers have held off so long in expectation of better prices that now they must buy. High prices of wool seem to give the only serious anxiety to the hosiery people just now. A general improvement this month is reported in the shoe branch.

As beneficial to the home trade in all lines, it is believed that the close economy observed by retail buyers generally in 1904 will be relaxed in 1905; and the sanguine indulge the hope that there will be not only increased expenditure out of the current year's incomes, but also something spent out of the past year's savings.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 16, 1905.*

DANISH-JAPANESE TRADING COMPANY.

(From United States Consul Frasier, Copenhagen, Denmark.)

Prominent Copenhagen tradespeople have organized a Danish-Japanese trading company to operate on a large scale in the Far Eastern trade. It is proposed to utilize the excellent Copenhagen free port as the distributing center, and they do not doubt their ability to capture for Copenhagen a considerable portion of the Oriental trade at present enjoyed by England and Germany.

The East Asiatic Company, of Copenhagen, already maintains a line of steamers between Copenhagen and east Asia, but up to the present no organized effort has been made to divert from Hamburg the rather large commerce in Japanese raw products and manufactures in the Baltic Sea countries. A representative of the new company left Copenhagen this week for Japan with proper credentials, and will establish business connections with prominent Japanese houses, and make a thorough study of the requirements of the Japanese department of customs. Upon his return the company will begin active operations; it will have for its field of operations all the rich countries of the Baltic Sea, with the Copenhagen free port as a base.

The following is a statement of the value of the trade of Denmark with east Asia, China, and the South Sea Islands for the years 1901 to 1903:

Trade of Denmark with east Asia, China, and South Sea Islands, 1901 to 1903.

Year.	Imports.	Exports.	Total trade.
1901.....	\$1,174,948	\$236,944	\$1,471,892
1902.....	1,218,364	239,976	1,568,340
1903.....	604,912	205,566	710,478

RAYMOND R. FRAZIER, *Consul.*

COPENHAGEN, DENMARK, *January 16, 1905.*

AMERICAN CONFECTIONERY IN ENGLAND.

(From United States Consul Halstead, Birmingham, England.)

A deputation of confectioners, mineral-water dealers, glass bottle manufacturers, and representatives of allied and subsidiary trades of Great Britain recently waited upon the chancellor of the exchequer to urge the discontinuance of the tax on sugar because "it was exercising most disastrous effects upon the industries represented." A Mr. Edwards, the first speaker, said that America was sending to Great Britain 150,000 tons of confectionery per month with no duty on it; that the Swiss were sending many thousands of pounds sterling worth of chocolate per year at a cheap rate because they use bounty-fed sugar, prohibited to manufacturers here, and that sugar was high here and cheap on the Continent, allowing continental makers to endanger the British position in the neutral markets of the world.

Mr. Austen Chamberlain, the chancellor of the exchequer, in his speech, in reply to the deputation, said it was not true that imports of confectionery into this country had risen to an enormous extent since the duty was imposed. He thought there must be some misapprehension as to what the so-called confectionery was, for the imports of real confectionery did not increase at all, and practically the whole excess in 1903 over the imports of 1902 was accounted for by the increased imports of bottled fruits and sirups, and, so far as manufactured sugar articles were concerned, the foreigners paid the same tax as the British manufacturers did.

I was surprised that anyone should state that so much American confectionery was coming here, for our statistics should show that the amount is not large. I believe, however, that American confectioners who import their own sugar and make the necessary identification arrangements with the customs authorities to get the 99 per cent

rebate of the duty they have paid, as our tariff provides, could sell confectionery here and all over the world to very great advantage.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *January 21, 1905.*

According to the official returns of the Bureau of Statistics, Department of Commerce and Labor, the values of exports of American candy and confectionery were as follows during the fiscal years 1900 to 1904:

Exports of American confectionery, 1900 to 1904.

Year.	Exported to—		Total.
	United Kingdom.	All other countries.	
1900.....	\$300,979	\$264,508	\$565,487
1901.....	259,000	284,833	543,833
1902.....	203,810	261,684	465,494
1903.....	213,682	321,730	535,412
1904.....	183,817	368,594	551,911

DISCOVERY IN ZOOLOGY.

United States Consul E. Theophilus Liefeld, Freiburg, Germany, January 20, 1905, transmits the following extract from the Paris edition of the New York Herald of January 19, 1905, under a Geneva, Switzerland, heading:

Professor Standfus, of Zurich, after many years of experiments, has made a discovery which, if genuine, is likely to revolutionize science in general and zoology in particular. Briefly it consists in creating new species and races by the influence of high and low temperatures.

The Swiss scientist, up to now, has confined his experiments to butterflies, and has obtained remarkable results, but there is no reason why, under similar conditions, the same effects may not be produced upon bird and animal life. Taking some 6,000 ordinary caterpillars in their different stages of metamorphoses, he exposed them to temperatures varying from 40° to -4° C. (99° to 25° F.). Most of them developed into butterflies of ancient species, which are now very rare, while others developed into totally new species, so far unknown to scientists.

Certain butterflies are characterized by successive and different generations. For instance, the chrysalis of the butterfly *Vanessa levana* gives birth in the spring to butterflies which lay eggs in summer. In the same year these eggs produce butterflies which differ completely in form and color from those of the first generation. The former are named *Vanessa levana* spring, and the latter *Vanessa levana* summer. By submitting the chrysalis of the second form to a temperature of 30° C. (81° F.), the first form is obtained. The same results have

been accomplished with the *Vanessa urticæ*, a rare butterfly, found only at the North Cape and in Sardinia.

An ancient species which had entirely disappeared was obtained with the *Papilio machaon* in the same manner. During the experiments butterflies which are found in districts so far apart as the Arctic Circle and the Torrid Zone were produced. Even more surprising were the hybrids obtained from the effects of "crossing" under the influence of heat and cold. Gorgeous specimens of all the colors of the rainbow beautifully intermingled came forth and developed under the care of Professor Standfus, who was himself surprised at the results. Needless to add, all the ancient species produced are extremely valuable from a pecuniary point of view, while the "created" specimens are practically priceless.

APPLES IN CANADA AND ENGLAND.

(From United States Consul Worman, Three Rivers, Quebec.)

SCARCITY OF APPLES IN QUEBEC.

The crop of apples in this region of Canada was very light last autumn. A number of canal boats came in from the Champlain territory close to the American line, and marketed their imported fruit quickly. At present good apples are selling for \$4 per barrel, and are very difficult to obtain, while in the Champlain country of New York and Vermont they are selling at about one-half that price. The packers and shippers last autumn held down the price to \$1 and \$1.25 per barrel, and even at that price refused to take all varieties of winter apples. The growers of the Champlain region, especially in the State of New York, suffered great losses, refusing to part with their fruit at such figures, as barrels were scarce and had to be imported at an expense of from 35 to 50 cents each.

AMERICAN AND CANADIAN APPLES IN ENGLAND.

Large quantities of apples were shipped from Canada to England, presumably among them apples imported from the United States. The commercial agent of the Dominion, Mr. J. B. Jackson, reports from Leeds, England, that the first consignment of American apples of 1904 to Hull brought from \$2.75 to \$3.50 per barrel at auction on September 30, the last-named price being for A No. 1 fruit. Concerning Canadian apples, he reports that they were marketed in Leeds in excellent condition, principally Greenings, at from 4 to 6 cents per pound. He wrote September 30, 1904, as printed in the monthly report of the department of trade and commerce of Canada:

I have been through this district very thoroughly and have been taking the opinion of the apple men who have been all over England examining the apple orchards, and with one accord they tell me that

the English apple crop, although plentiful, is of a poor quality in general. The pick of the English apples will be entirely required for the London trade, and it is the opinion of the best apple men here that the English apples will be almost entirely out of the way within the next six or seven weeks, and that fair prices will be realized for Canadian apples this year.

Canadian and American apples always sell for more than English-grown apples, unless in special cases and for special varieties. The buyer here wants more color to the apples than is generally found in the English varieties.

I find that last year, during the apple season, the Wilson line of boats from New York were bringing apples from New York to Hull for 48 cents per barrel, and the highest freight paid by a large firm there who brought over 50,000 barrels of American apples last year was 54 cents per barrel, while at the same time the rates from New York to Liverpool were over 72 cents per barrel, and taking into account the difference in the dock charges, etc., between Liverpool, London, and Hull, the same apples sold at 50 cents per barrel less in Hull than in Liverpool or London, and still realized the same amount for the exporter.

PACKING APPLES FOR EXPORT.

Regarding the manner of shipping apples, Commercial Agent Jackson reported:

I find that the question of "box or barrel" is being thoroughly discussed in this district, and with some special exceptions the barrel is the favorite package, especially among the large importers and the large houses interested in the apple trade. The retail men and the smaller dealers in many cases like the box, because it holds less fruit and is more easily handled. A customer may buy a box with 56 pounds of fruit when he would not buy a barrel, and as the barrel can not be divided, more fruit might be sold in boxes; but as an experienced and extensive importer said to me the other day: "We like some fancy apples and fruit of an extra quality for holiday seasons in boxes, still we prefer the average apple in barrels. There is seldom if ever a surfeit of apples in barrels, but if the same amount were shipped in boxes during the busy part of the season it would be impossible to get rid of them, at least with the same facilities that we get rid of the barrels."

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *January 31, 1905.*

COSTA RICA BANANA INDUSTRY.

(From United States Consul Demers, Port Limon, Costa Rica.)

The banana industry, unknown to Costa Rica twenty-five years ago, has reached such proportions, especially within the last few years, that bananas now form the main export of the country. It is no longer an infant industry, but a giant one, as important as that of coffee, which for a long time has been the mainstay of this small but stable Republic.

At the close of 1904 about 50,000 acres of land were devoted to banana growing in Costa Rica, of which 90 per cent is owned by the United Fruit Company, a corporation organized under the laws of New Jersey and controlling probably 75 per cent of the total production.

At present the market for this fruit is highly encouraging and bids fair to continue so for many years to come. The trade was exclusively confined to the United States until 1902, when it was introduced in England with gratifying results to the exporters. France, Germany, Italy, Spain, and other European countries do not as yet consume bananas, but as soon as a substantial increase in the acreage is reached, and with the present facilities for transportation and the use of ships equipped with cold storage, the market should and will undoubtedly be extended to those countries with equally as gratifying results as in England.

As to possibilities of the demand for bananas ever ceasing to exist, no one need have any fear. Bananas are not luxuries alone, but nutritious food, and, being cheap, will always be used by all classes, and for many purposes. The amount exported from Port Limon during the five fiscal years ended with June 30, 1904, was as follows, in bunches: 1900, 2,804,103; 1901, 3,192,104; 1902, 4,427,024; 1903, 5,261,600; and 1904, 5,760,000. During the six months ended December 31, 1904, the exports amounted to 2,911,071 bunches.

As shown, banana exports have more than doubled during the last five years, and present indications are that the exports will double again during the next five years. As an investment, taking into consideration the quick returns and the readiness and ever-increasing sphere of market, I consider banana cultivation quite profitable. On a conservative estimate 40 per cent per annum can be realized to investors, under good management and normal conditions. The following figures show the probable costs and profits on a tract of 100 acres planted in bananas:

Original outlay—Land (\$20 per acre), \$2,000; reducing land and bringing it to a banana-bearing condition (\$50 per acre), \$5,000; total, \$7,000. Gross returns—180 stems per acre per annum, at 31 cents per stem, \$5,580. Expenses—Cutting and hauling the fruit, and keeping the plantation clean (8 cents per stem), \$1,440; manager (\$100 per month), \$1,200; total, \$2,640. Net return on investment, \$2,940.

The entire banana crop at present is sold to the United Fruit Company, which operates a railroad system through the fruit districts and pays 31 cents per stem on delivery alongside their track.

Under very favorable circumstances a banana plant may give a stem of fruit in nine months, but it generally takes from fifteen to eighteen months for the average plantation to be in full bearing. The life of a plantation varies according to the fertility of its soil and topographical

situation. Some soils may need a rest in six or seven years, while others may last practically forever, as in cases where periodically enriched by alluvial deposits. I know of plantations fifteen years old yielding to-day as many bananas as they did in their second or third year. Sandy loam, through which water or rain will freely percolate, is the best soil for bananas. The stalk needs a large amount of rainfall for its successful development, but water must not be allowed to remain on the surface or immediately under the surface of the soil surrounding it, lest the water be heated by the tropical sun and become stagnant, in which case it may kill the plant.

Jamaican negroes are exclusively used as laborers, and their average pay is 70 cents per day. The negro is immune from yellow fever, is indispensable, and the only person truly adapted to the work required, where, by reason of the richness and more or less swampy nature of the land, mosquitoes abound, and the dangers of contracting disease are comparatively great.

The implements used in cultivating bananas are steel machetes, axes, shovels, and plows. Many plantations are equipped with narrow-gauge railways and horse cars for hauling fruit. The rails used are very small. Machetes, axes, and plows are generally imported from the United States. Shovels come from England, where they can be bought cheaper, it is claimed. I am informed by the United Fruit Company, the leading importers of agricultural implements in this district, that they are buying D. H. No. 2 shovels, f. o. b. at Liverpool or Manchester, for \$4.33 a dozen, and that they would have to pay \$5 a dozen, f. o. b. at New Orleans, for American shovels. As the company run their own ships from both places the difference in freight means very little to them. Rails are imported from the United States and Germany, but mostly from the latter country, also on account of difference in prices. It has happened that American rails have been bought at a lower figure on the English market than in the United States.

The import duties on the articles mentioned are as follows, in United States currency, per kilogram (2.2046 pounds): Machetes, axes, and shovels, 8.12 cents; plows, 2.16 cents; rails, free.

I understand that fine flour can be made from bananas, and that fibers from the leaves and stalks could be extracted and successfully worked, but as yet nothing along that line has been done in this country.

PIERRE PAUL DEMERS, *Consul*.

PORT LIMON, COSTA RICA, *January 26, 1905.*

BITUMEN IN SYRIA.

(From United States Consul Ravndal, Beirut, Syria.)

Large deposits of bitumen of exceptionally fine quality were located some fifty years ago near Hasbeya, not far from the sources of the Jordan River. They are the property of the Sultan, and were formerly leased to the firm of H. Sabbag & Fils, Beirut, Syria, who retained one-third of the mined product and paid all expenses, while the remaining two-thirds was sold by the "Liste civile" to Messrs. Sabbag. Provision was made for the suppression of any exploitation of the Dead Sea and Latakia bitumen, and thus a monopoly was created which raised or lowered the price per ton as the exigencies of the moment might dictate. Twenty years ago the price demanded, in the absence of any stock on hand, was \$235 per ton. Abundant supplies were soon dug out, and in order to test the capacity of the world's markets, the price was gradually lowered to nearly \$60 per ton without, however, stimulating consumption commensurately. Ultimately the price went up to something like \$150 per ton, at which rate about 5,000 boxes of 100 kilos (220 pounds) each are sold annually in Hamburg, London, New York, Trieste, and Genoa. The United States takes about 1,000 boxes a year.

It is claimed that the Syrian bitumen is without a rival in the world, being exceptionally pure and rich in its native state. It is used, not for street paving, nor for covering ships' bottoms, nor for timber used in dams, etc., as are, I believe, largely the Trinidad and South American asphalts, but in the manufacture of black varnish for furniture, leather, etc. Dead Sea bitumen is said to be superior even to the Hasbeya product, and bitumen of prime quality is found also near Latakia in northern Syria. Turkey's mineral wealth is great but undeveloped. Even the Hasbeya pits are at present lying idle and have been practically abandoned for ten years, the product now sold being old stock.

Mr. Ibrahim Sabbag, present head of the firm of H. Sabbag & Fils, is desirous of establishing connections in the United States for a wider sale of Syrian bitumen. He is also prepared to enter into negotiations with such American concerns as might wish to rent the Hasbeya bitumen fields, or enter into partnership with him for working them. Being the owner of the Beirut gas works, and interested in railroads as well as other enterprises, he is not in position to give sufficient time and attention to the bitumen business, but is ready to invest his own capital for its development. Mr. Sabbag is connected with the American consulate in Beirut as honorary dragoman. He is perfectly at home in English and may be addressed in that language.

It would seem that the Hasbeya bitumen fields may properly lay claim to consideration in the United States. Hitherto the bitumen has been dug out with picks and shovels by native labor, and no machinery of any kind has ever been employed. From Hasbeya the article is carried to Beirut on camel back. Eventually the concession could, no doubt, be extended so as to include the Dead Sea and Latakia bitumen, and perhaps the phosphates of the Jordan Valley, and other natural resources of the Holy Land, which, for industrial and commercial purposes are as yet untouched, including the mineral waters and salts of the hot springs between Lake Tiberias and the Dead Sea.

G. BIE RAVNDAL, *Consul*.

BEIRUT, SYRIA, *January 14, 1905.*

ADULTERATED SUMAC FOR THE UNITED STATES.

(*From United States Consul Mahin, Nottingham, England.*)

The following article, which appears in a British trade journal, is a translation from *Le Ora*, a periodical published in Sicily:

Matters are proceeding from bad to worse. Transactions in pure sumac become more difficult, while the shipments of adulterated sumac increase out of all bounds. The thousand tricks resorted to by the adulterators are so well organized as to defy the vigilance of the royal prefecture, making black appear white to the eyes of the functionary to whom the duty of sampling the goods is intrusted. We will cite two typical cases which have occurred during the last ten days, to which we would once more call the attention of the competent authorities:

By a steamer sailing to Boston, the *Canopic*, a large lot of adulterated sumac was shipped bearing the usual "warranted pure" brand. The shipper of these goods resorted to the following ruse to elude the law: On one side the bags were branded as pure sumac, and on the other side, stenciled in water color, was to be read "25 per cent lentisco." When the goods were put on the lighters the shipper's porters proceeded by means of appropriate brushes to efface all signs of the admixture brand, thus leaving only the "warranted pure" brand impressed in indelible color on the other side of the bags, which had been artfully concealed from the notice of the Government official. In this way the shipment was effected and the matter passed unobserved.

By another steamer for New York (it seems that the New World is the locality preferably aimed at by the adulterators) were shipped, among others, about 1,000 bags of sumac in one lot. It appears that the sample was taken, not from the goods in course of shipment, but from some bags lying on a car purporting to belong to the same lot. We are informed that the sumac shipped was heavily adulterated, while only the goods lying on the car, from which the sample was taken, were pure. Was that carload sent expressly to the shipping post by the exporters in prevision of the functionary who was going to withdraw the sample? It seems very likely.

We might cite hundreds of similar cases, which recur with a fearful crescendo, and until the prefect counsels the Government to instruct the customs to take samples indiscriminately from every lot the plague will not be arrested.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *January 24, 1905.*

DEPARTMENT STORES IN GERMANY.

(*From United States Consul Harris, Mannheim, Germany.*)

The rapidly increasing number of department stores (*Warenhäuser*) in all parts of Germany has attracted general notice. In Prussia, Württemberg, and Baden, and possibly in other German States, special legislation has been enacted for the purpose of checking their growth.

A law which, on January 1, 1905, went into effect in the Grand Duchy of Baden provides for a special tax to be assessed upon the amount of the annual sales of these stores. A department store becomes liable to the tax when its annual sales reach 200,000 marks (\$47,600). If, however, it is a branch of some concern situated outside of Baden, it becomes liable to the tax when its annual sales reach 30,000 marks (\$7,140). The tax rate increases gradually as the annual sales increase. Thus on sales of from 200,000 to 400,000 marks (\$47,600 to \$95,200) the rate is one-fifth of 1 per cent; on yearly sales amounting to 1,100,000 marks (\$261,800) the rate is three-fifths of 1 per cent, and from this on it increases one-tenth of 1 per cent for each 100,000 marks (\$23,800) of sales. A further provision of the law limits the amount of the tax that can be assessed against any single store by fixing the maximum at 10 per cent of the profits, as against 20 per cent provided for by the Prussian law. The law further provides for an examination of the books of department stores and for penalties in case false returns are made.

It seems to be conceded that the special tax will have but little effect in checking the growth of these stores, and that their effect upon the smaller shopkeepers and owners of small storerooms is a somewhat grave problem.

H. W. HARRIS, *Consul.*

MANNHEIM, GERMANY, *January 7, 1905.*

MUNICIPAL OWNERSHIP IN SHEFFIELD.

(*From United States Consul Daniels, Sheffield, England.*)

WATER SERVICE.

The water service in Sheffield has occasioned some anxiety on account of the exceptional drought, there having been a steady diminution of the supply from the beginning of 1904 until the first week in November.

The average daily consumption of water at this time of the year (winter) is 11,000,000 gallons; in the summer it reaches 13,000,000 gallons. In 1894 the daily average consumption was 7,500,000 gallons. The city has been compelled to take steps to meet this increased demand, and seven years ago the construction of the Langsett reservoir was begun. The past year noted the closing of the valves of this work, and within a year it will be sending water to the city. The new reservoir, which has a capacity of 1,400,000,000 gallons, was constructed jointly by the corporations of Sheffield, Rotherham, and Doncaster at an estimated cost of \$4,866,500, to be borne by them in proportion to the quantity of water taken.

The water charges in Sheffield are stated to be among the lowest in the United Kingdom, and it is also authoritatively stated that "for domestic use, as well as for trade, manufacturing, and boiler purposes, Sheffield water is unrivaled." At the end of 1904, after all working expenses were paid and the necessary installments for the reduction of loan indebtedness provided, and after the water-rate charges had been reduced by 25 per cent, amounting to \$131,396, there was an accumulated surplus of £120,825 (\$587,995) in the revenues. During 1905 interest and sinking-fund charges on the Langsett works will become due and will have to be paid from the surplus.

The year 1887 was the last of the water company, and a comparison between private and municipal ownership is presented. In 1887 the gross revenue of the water concern was £83,310 (\$405,428); in 1904 it was £169,046 (\$822,662), an increase of 103 per cent. The working expenses in 1887 were £14,224 (\$69,221); in 1904 they were £27,408 (\$133,381), an increase of 92 per cent. The gross profit in 1887 was £69,086 (\$335,863); in 1904 it was £114,548 (\$557,447). The net profit after deducting charges for interest and new works in 1887 was only £5,971 (\$29,058); in 1904 it was £74,228 (\$361,231), an increase of more than 1,200 per cent. The old shareholders of the company have been paid in progressive dividends £119,401 (\$581,065) more than they were receiving in 1887. The city received as its share of the improvements £352,509 (\$1,715,485), consisting of reduced water charges, £106,619 (\$518,861); amount paid toward the purchase of the freehold, £122,065 (\$594,029); and a surplus of £120,825 (\$587,995) on hand for emergencies.

Early in the year the municipality began giving water free to the health committee for baths and other purposes, by which that department is now saving about £2,700 (\$13,140) a year.

ELECTRIC LIGHTS.

The year 1904 was notable for the opening of the power station at Neepsend. There has been a notable increase in the demand for electricity. A few years ago only a very small number of motors were

in use; now they may be found driving all kinds of machinery. Electric motors to the extent of 115 horsepower were applied for in the year; several cutlery firms now have their machinery driven wholly by electricity, and it is applied in rolling mills and to pneumatic and power hammers, annealing furnaces, lathes, saws, and machines for buffing, wire drawing, steel-tape grinding, and tempering. There are also twenty elevators for passengers and goods, and a large number of traveling cranes operated by electricity. Customers have increased in number from 2,549 to 3,000. The lamp connections have reached a total of 275,363. The units sold up to last March were 3,980,049, and it is estimated that 5,000,000 will be reached by the end of the current year.

After paying all charges the department had a surplus at the end of the financial year of £5,431 (\$26,429) against £6,534 (\$31,797) at the end of the previous year, the decrease being accounted for by the fact that interest is being paid on a large amount of capital that has not yet become revenue producing. A new style arc lamp has been introduced for lighting shop fronts, the brilliancy of which is unquestioned, although it has not yet come into general use, only about twenty having been installed so far. For interior lighting the Nernst lamp is a growing favorite and is regarded as a formidable rival to the incandescent gas lamp.

ELECTRIC TRAMWAYS.

The receipts of the Sheffield tramways in 1904 amounted to £235,939 (\$1,148,197), an increase of over £7,000 (\$34,065) over 1903; 62,579,866 passengers were carried and 5,658,926 car miles were run during the year. The total number of cars is 247, an increase of 29 in the year. The average number of ordinary cars running daily is 139 and 58 special cars. There are over 64 miles of single track (excluding depots), and the total number of employees is 1,386. Among other changes and experiments that have been made during the past year are the installation of an automatic point or switch controller in June last, which is still in operation and is working satisfactorily. About 230 vehicles have been equipped with the "hanging-gate" type of life guard, and the remaining cars will be fitted in the same way. Outside end indicators with the route in full have been ordered and are being fitted on all cars.

During the year the rate of pay for conductors has been increased, and they have been granted relief for meals. In March a clause was adopted attempting to limit the liability of the corporation to £25 (\$121.66) in the event of injury to a passenger, but in November this clause was withdrawn as being untenable.

MOTOR OMNIBUSES.

The question of running motor omnibuses from some of the present outside termini to outlying districts has been considered, but as the

corporation has not the power to run such vehicles under the existing acts it has been decided to apply for the necessary authority in the next Parliamentary bill.

CHAS. N. DANIELS, *Consul*.

SHEFFIELD, ENGLAND, *January 24, 1905.*

ALCOHOL TRUST IN SPAIN.

(*From Consul-General Ridgely, Barcelona, Spain.*)

The organization of a great alcohol trust is the most important recent industrial and commercial development in Spain. The formation of *La Sociedad Unión Alcohólica Española* has just been completed, with home office at Madrid, and a capital of 16,000,000 pesetas, equal nominally to \$3,088,000.^a

Members bind themselves neither to establish new manufactories nor to deal in alcohol not produced by the company. The society or trust is made up of most of the alcohol distillers of Spain, of the members of the *Sociedad General Azucarera* (National Sugar Company)—which brings into the trust its manufactories, its molasses or dregs as produced, and also the alcohol which it produces—and of a group of financiers which has subscribed the 4,000,000 shares that form the working capital.

The basis is the molasses contract entered into with the *Sociedad General Azucarera*, which owns most of the sugar mills in Spain. Besides these the combine has already acquired the largest and best-situated grain distilleries, and hopes to be able to control also the production of vinic alcohol. The proposal to form an alcohol trust was, at the outset, regarded with doubts and misgivings by producers of what is known as industrial alcohol when they learned the conditions under which the trust was to be formed, but more than half of all the manufacturers of Spain have now given their adherence, and among them are some of the largest distillers in the country.

One objection urged against the trust scheme by many distillers is the clause requiring that half the number of shares which distillers will receive in payment for their works, according to valuation, shall be deposited in the company's offices for four years as a pledge that the venders will not resume distilling in competition to the trust. The fear is entertained that if, through mismanagement or for any other reason, the value of the shares should fall during that time, the holders will not only be unable to realize their stock, but might even be obliged to eventually dispose of their shares at a heavy loss to some

^a The consul-general estimates the peseta at its gold value, 19.3 cents; the value of the peseta of general currency is about 15 cents.—BUREAU OF STATISTICS.

other syndicate. Moreover, the capital, fixed at 16,000,000 pesetas (\$3,088,000), is by some considered insufficient.

Notwithstanding these objections it is believed that the firms which have so far held aloof will in the end be forced to join the combine, especially those that find themselves adversely affected by the new alcohol law.

In order to enable the trust to completely control the trade in times, such as the present year, when the low price of wine prevents industrial alcohols from competing with vinic alcohol, it has been proposed to invite the distillers of vinic alcohol to join the combine; but this would necessitate a very large increase in capital, and in the opinion of many the difficulty of bringing into harmony the interests of the innumerable small distillers throughout the country would prove almost insurmountable. In any case, considerable time must elapse before the trust can hope to be in a position to operate.

In answer to a communication which I recently addressed to the president of the company, I am in receipt of the following:

MADRID, *January 10, 1905.*

SEÑOR CONSUL-GENERAL: The Hon. Thomas Castellano has forwarded us your letter which you addressed to him under date of December 29, last, and as requested therein we beg to inform you that the object of the formation of this society is the acquisition of molasses or dregs from the National Sugar Company, and the production of alcohol therefrom on a cheaper scale. The formation of the society has been favorably welcomed by manufacturers. There are 54 industrial alcohol factories, and up to the present 31 of them form part of the society, the most modern and important establishments being included. The annual production of industrial alcohol is calculated to be 600,000 hectoliters (15,850,200 gallons). We trust that by producing cheaper alcohol the consumption for industrial purposes will increase. The immediate effect of the new alcohol law has been to turn things upside down. Alcohol is at present used almost exclusively for heating, but our purpose is to bring it into general use for light and power. The DIRECTOR.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *January 17, 1905.*

NEW AUTOMATIC BUFFER COUPLING.

(From United States Consul Mahin, Nottingham, England.)

A model of a recently invented automatic buffer coupling attached to two model cars has been exhibited at the offices of the London and Northwestern Railway Company. The coupling not only connects the vehicles, but at the same time connects the Westinghouse or vacuum brakes. The model shows the cars on a two-chain curve, which is

more acute than any of the curves in existence on British or Continental lines.

The striking feature of the invention, it is claimed, is that no manual labor is required to complete the act of coupling, the device differing materially in this respect from the couplings which require to be put into position by a lever. The attachment has both an up and down and a lateral movement, thus adapting itself to either loaded or unloaded cars, and to sharp curves. To use the new coupling no alteration is required in the general construction of railway rolling stock. It being a buffer, the two side buffers can be dispensed with, thus saving, it is estimated, at least 9 hundredweight (1,008 pounds) in weight on each vehicle.

There is also an attachment by which, in case of accident, or in the event of the vehicles becoming separated, the brake is automatically applied to all the cars. The coupling consists of only five parts, and no springs are exposed. It is said to work so easily that an engine fitted with the new coupling could be sent after a runaway car and become attached to it on the slightest impact. In addition to being adapted for railway rolling stock, the coupling can be used for many other purposes, it is claimed, such as limbering or unlimbering gun carriages. The inventor's name is S. J. Coles, according to the published accounts of the device, but his address is not given.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 24, 1906.*

CANNING FACTORIES IN CHINA.

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(*From United States Consul Anderson, Hangchau, China.*)

There is to be an opening for modern canning-factory machinery and appliances in China before long; indeed it may almost be said that there is an opening at the present time. The new industrial school being established in Hangchau by the gentry of this province includes in its curriculum training in the canning of fruits and vegetables on a large scale.

There are reasons why factories of the sort are likely to succeed. While there are not many fruits in China which can be canned to advantage there are one or two varieties which can be put up for some classes of trade for far less money here than in other countries. The fruit is cheap, and labor can be had at rates impossible anywhere else than in Asia.

In south China and the Straits Settlements there are several canning factories which have proved a great success. They have a brand of pineapples on the market in this part of the world which is fair in quality, cheap in price, and yet put out at a very good profit. In this

part of China it is probable that some vegetables could be handled by canning factories with good returns, the low price of the vegetables and of labor offering advantages which would enable the projectors to enter markets now held by other nations. The Chinese themselves appreciate the possibilities in this direction, and the proposed school course in Hangchau is significant. It is merely another form of the present policy of the Chinese officials—"China for the Chinese."

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *December 17, 1904.*

MUNICIPAL FINANCES OF PUERTO CABELLO.

(*From United States Consul Peterson, Puerto Cabello, Venezuela.*)

A study of the official estimates, published in the Boletín de Noticias, as decreed by the municipal council of the district of Puerto Cabello, throws considerable light on the financial methods pursued in this thriving Venezuelan seaport. The decree estimates that the probable revenue for the year 1905 will amount to \$73,236. The population of the district is estimated at 14,000, which would make the local tax per capita about \$5.23.

The largest source of revenue is the public slaughterhouse, \$19,300, and the next in importance are the "patentes de industrias," or licenses for conducting business of various kinds, amounting to \$18,914. Other sources of revenue are set forth under the following heads: Public market, water tax and rents, mercantile and business carts, coaches and carriages, licenses for manufacturers and agencies of cigarettes, fees for lotteries, fees for ballast, product of property reverted to the municipality in default of heirs, licenses issued to cattle ships, rents from public ground, tax upon oil of cocoanuts, social clubs, licenses for street organs, public amusements, tax for breaking ground for water connection and building purposes, weights and measures, and penalties for the infraction of municipal ordinances.

The allotment of the estimated revenue to meet the expenses of the current year is given. Salaries of the civil functionaries, including the president and secretary of the municipal council, civil chiefs and staffs and finance department, require nearly one-fifth, namely, \$13,657. The salaries range from \$57.90 per quincena, or half month, for the head of the financial department, with \$38.60 each for the president of the council and civil chief of the district, down to messengers at \$9.65 and \$11.58. This would make the yearly salaries of the higher officials equivalent in United States currency to \$1,389.60 and \$926.40; those of the messengers would be equal to \$231.60 and \$277.92. For public instruction, apportioned among 1 boys' college,

1 religious college, 2 schools for males, 6 schools for girls, 6 mixed schools, 1 night school, and 1 trade school, besides paying expenses of inspection and toward the municipal library, \$5,373 is set aside. The judiciary department, including a judge of the district and one for the municipal towns, with clerks and porters, calls for \$2,316. Charity and the public health are set down for \$2,524 to provide for medical and hospital service, medicines for the poor, inspection of provisions, and public cleanliness. The preparation of statistics calls for \$602. Public decoration or beautifying the city, which includes a master of public works, waters, and fountains, an inspector of clocks, provision for concerts, the care of plazas and gardens, subscriptions for telephones and the theater, is set down for \$2,557. Other items are as follows: Municipal aqueduct, \$463; public slaughterhouse, \$864; pensions, \$486; official publications, \$11,065; police department, \$14,019; house of correction, including rent, \$4,280; municipal hospital, \$7,397; public lighting (54 electric lights), \$11,412; Catholic cemetery, \$1,057; public cleaning, \$1,268; deficit of 1904, \$772; advances on licenses of industries asked for in 1904, \$158; repairs and contingencies, \$1,965.

It will be observed that the item of salaries for civil officials is exceeded by only one other, that for the maintenance of the police, and that these two, with the judiciary, demand over two-fifths of the budget. Next in order come public lighting, the municipal hospital, instruction, and correction, which consume nearly two-fifths more, leaving about one-fifth for the street-cleaning, aqueduct, and other incidental expenditures.

In a note appended to the estimates it is stated that there was not included, in the probable revenue in the branch of water supply, receipts for the quantity of water taken for maritime purposes, the total amount of which has been pledged for the payment of the municipal indebtedness. This debt, amounting to \$34,778, is divided among some nineteen creditors, embracing the principal merchants and business houses of the place. The revenues which have been pledged for its payment consist of a tax of \$57.90 for water imposed upon every steam vessel entering the port. As about 120 vessels are subject to this tax in the course of a year the amount raised therefrom should be in the neighborhood of \$6,948.

JEROME B. PETERSON, *Consul*.

PUERTO CABELLO, VENEZUELA, *January 25, 1905.*

PATENT MEDICINES IN VENEZUELA.

(*From United States Consul Hurst, La Guaira, Venezuela.*)

A measure recently promulgated by the ministry of hacienda places in force a regulation of the association of physicians of Venezuela whereby sales of secret or patent medicines, unless formally recognized

in Venezuela, are to be prohibited, although they may have the approval of foreign medical faculties. Failure to meet the requirements will subject offenders to the penalties of the law. A permanent commission has been appointed to examine and classify secret or patented remedies. Every manufacturer wishing to sell medicinal preparations in Venezuela must make a statement, in legal form, setting forth: (1) The name of the remedy, (2) the full formula, and (3) the dose prescribed. Two samples, accompanied by the foregoing particulars, shall be submitted to the commission. The manufacturer may appoint by letter, if necessary, a local representative to treat with the commission. For each certificate permitting the sale of a medicine a tax of \$3.86 must be paid.

Four months will be allowed foreign and two months domestic manufacturers in which to comply with these requirements. When this time is past the custom-houses will place, for two months, importations of this kind in class 5 of the tariff, paying a higher duty, during which period the preparations may still be brought before the commission. After this they will be put on the list of prohibited articles. The custom-houses will continue their examination and appraisement as heretofore. New secret or patent medicines, compounded after the termination of the time given, may be submitted for examination upon fulfilling the requisite formalities. All preparations allowed sale will bear an authoritative inscription to that effect on the wrappers.

The address of the commission, which will examine samples within five days after presentation, is: "Junta de Examen y Clasificación de Medicinas Secretas y de Patente," Caracas.

CARL BAILEY HURST, *Consul*.

LA GUAIRA, VENEZUELA, *January 15, 1905.*

TRADE IN CHEKIANG, CHINA.

(*From United States Consul Anderson, Hangchau, China.*)

While the official returns of the imperial maritime customs for the first nine months of 1904 show a generous and general increase in the amount of customs collections and trade, the returns for Hangchau, Ningpo, and Wenchau, the three ports of Chekiang province, which has the reputation of being not only the richest province in China, but the best balanced in its productions and trade, show a falling off since 1903. The figures for the July-September quarter, which have just been issued in the Customs Gazette, were anticipated largely in the figures I gave for Hangchau in a report on the general trade conditions of the district October 18, 1904, but in detail are significant. Hangchau is the only port in the province and consular district which shows

an increase. The total amount of duty collected in the three ports during the summer quarter, 1904, is 492,427 haikwan taels (\$344,700). Last year the same quarter brought in 512,209 taels (\$358,546), and the year before 453,610 taels (\$317,527). The record by ports for the quarter is:

Duty collected at Hangchau, Ningpo, and Wenchau, China, July, August, and September, 1902, 1903, and 1904.

Port.	1902.	1903.	1904.
Hangchau.....	\$150,828.20	\$185,300.80	\$197,391.60
Ningpo.....	140,408.80	150,856.30	180,499.60
Wenchau.....	17,290.00	21,889.20	16,809.10

The summer quarter seems to be indicative of the year, tea and silk shipments going out at this time. Both Wenchau and Ningpo show not only a decrease since 1903, but also a decrease since 1902. The increase in the collection of duties in all China in 1904 as compared with last year is between 5 and 6 per cent.

It is probable that this decrease in Ningpo and Wenchau is to be explained somewhat by a change in the course rather than in the volume of trade for this part of China. Almost all of the back-country tea trade which formerly went out by way of Ningpo is now going by way of Hangchau, and much at Wenchau is now going farther south. Hangchau has lost some to Shanghai. At the same time this can not explain all the decrease. The prevalence of smuggling has been an element in the situation, but the plain fact is that trade in this province is not as satisfactory as it was in 1903 and 1902. There have been decreased imports in some lines of American cotton goods and a marked decrease in the imports of American kerosene, largely displaced by increased importations from Sumatra of lower-priced oil. Any way the matter is viewed, however, the consular district as a whole shows a decreased trade so far as the first nine months of the year are concerned, and this, too, in spite of reasonably good crops and increasing general prosperity.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *December 28, 1904.*

NORWAY-UNITED STATES SHIPPING FACILITIES.

(From United States Consul Cunningham, Bergen, Norway.)

The Hamburg-American Steamship Company has entered into more active competition for the trans-Atlantic carrying trade of western Norway, and on January 1, 1905, appointed its own freight agents in Bergen, and others will be named at the various ports to solicit and

book freights for American ports. A close arrangement has been formed with the Bergenske Dampskibsselskab to receive freight so booked for transportation to Hamburg. The ships of the Bergenske Dampskib Company make two voyages from Tromsø to Hamburg each week, calling at the principal ports of western Norway to Christiansand, leaving Bergen on Mondays and Fridays the year round. No new lines of steamers are to be established, but the appointment of agents by the Hamburg-American Company indicates that it intends giving more attention to the American trade from here than formerly. If the increased competition will lessen the time consumed in delivering merchandise, a great favor will be conferred upon shippers. The company offers to make contracts for a year at reasonable rates for the transportation of the principal articles of merchandise usually shipped from here to the United States. Shippers have the choice of the following practical routes from western Norway to the United States: Wilson steamers via Hull; Hamburg-American Line, in connection with Bergenske Dampskib Company steamers, via Hamburg; Dampfschiffgesellschaft Norwegen and Holland-American Line via Rotterdam, and Forenede Dampskibs Company via Copenhagen. In each case but one transshipment of merchandise for New York and some other American ports is necessary. The time usually required from Bergen to port of transshipment for the United States is as follows: To Hull forty-eight hours, to Hamburg sixty hours, to Rotterdam sixty hours, and to Copenhagen seventy-two hours.

E. S. CUNNINGHAM, *Consul*.

BERGEN, NORWAY, *January 18, 1905.*

TRADE SCHOOL FOR METAL WORKING AT SOLINGEN.

(*From United States Consul Langer, Solingen, Germany.*)

About two years ago the practicability was discussed of opening a special trade school for metal working at Solingen, in which talented young people might have an opportunity to work out for themselves new designs and models and suggest new ideas for the many-sided products of Solingen. With the energetic aid of some of the large manufacturers and the granting of the necessary means by the city common council such a school was opened about three months ago with a force of experienced instructors under a director who is a practical and highly educated man. He takes hold of the work with animation, and with the aid of several able assistants is intent on making the school a model one as well as of value to local industry.

The number of entrance applicants was so large that a great part could not be considered, and it is already necessary to look for larger quarters. An inspection shows that the school contains apartments for drawing, modeling, a working room for engravers and chiselers, a

special room for the models, and an apartment for the director. In the room for drawing, the walls are decorated with plaster-cast models, drawing plates of castings, and exhibition work of pupils, consisting of models of various scissors, spoons, sword scabbards, designs for doors, locks, etc., some of them made to order for manufacturers who are interested, and all executed in an attractive manner. Special interest was attracted by a new model for shears and an artistic advertising placard. Busy hands were active in the modeling room copying from plaster-cast models and from nature. In the engraving line very good work is being done.

It may be well to say that it is hoped that the different manufacturers of weapons will loan the school models, with the object of inspiring the students with new ideas, and also that the instructors and scholars shall be allowed to visit the factories, some of which have already lent a helping hand in this respect and placed models, neatly arranged, in cabinets, at the disposal of the school.

JOSEPH J. LANGER, *Consul*.

SOLINGEN, GERMANY, *January 12, 1905.*

CATTLE OF NORMANDY AND BRITTANY.

(*From United States Consul Haynes, Rouen, France.*)

A report from this consulate August 1, 1904, on the cattle of Normandy and Brittany, has called forth several inquiries from the United States as to whether the beef value of these cattle equals their milk and butter value.

Last year there appeared in the *Annales de la Société Rurale* Argentine an article seemingly adverse to the Norman cattle race. "The good Norman milk cows," says the author, "which are very renowned in France, average from 5,000 to 6,000 liters (1,320.85 to 1,585.02 gallons) of milk and 104 to 112 kilograms (229 to 246.9 pounds) of butter yearly. Animals of this race have been imported to the United States, but an American cattle breeder who has passed some time in Normandy to study the cattle has not formed a good opinion of them. He does not think the race is good for the production of both meat and milk, and adds that in comparative tests made in French dairies the Norman cow has shown an inferiority to the gray Swiss or 'Schwitz' race."

L'Agriculture Nouvelle, Paris, in commenting upon this article asserts that because the Norman race is incontestably a good milk race it does not necessarily follow it is not good for slaughter. "Without meaning to offend the American cattle breeder referred to we must say," asserts the Parisian journal, "that facts and experience prove such an expression untrue. From the most remote time the Norman race has possessed a great reputation for its quantity and

excellence of meat. In fact its fattening aptitude and quick growth have developed to such a point that at present they seem to Norman cattle breeders greater than its milking qualities."

The article mentions that anciently Norman cattle were not the best for meat, but at present the muscles have reached a perfect development, the rump is much larger, the breast plumper and rounder, the sides fatter, the dewlaps, which were an obstacle to the development of the breast, almost suppressed, and the skin more supple, more easily detached, and yet of sufficient thickness for outdoor animals. In procuring such a superior breed for meat the Norman breeders have not forgotten the milking qualities, but have improved only upon select males and females which presented the best aptitude for milk giving. For reproduction, bulls of from 14 to 15 months up to 3 years old are used, and cows only at 2 years old. It has always been the custom in buying a young animal for reproduction to see the mother, and in fact as many of the ancestors of the animal as possible. Of inestimable value in this respect is the Norman Herd Book, which dates back to 1884.

In order further to disprove the assertions made in the *Annales de la Société Rurale Argentine*, *L'Agriculture Nouvelle* gives the average measurement and yield of some of the Norman prize beeves.

Average measurement and weight of prize Norman beeves.

Measurement and weight.	Age 4 years.	Age 5½ years.
Height.....	5 feet 1.8 inches..	5 feet 1.8 inches.
Live weight at slaughterhouse.....	2,060.3 pounds...	2,226.67 pounds.
Weight of the four quarters, hide, and tallow.....	1,638.63 pounds...	1,865 pounds.
Proportionate percentage of four quarters to live weight.....	68.118 per cent....	66.139 per cent.
Weight of tallow.....	220.46 pounds....	271.17 pounds.
Proportionate percentage of tallow to live weight....	10.753 per cent....	12.17 per cent.
Weight of hide.....	119.05 pounds.....	121.25 pounds.
Proportionate percentage of hide to live weight.....	5.80 per cent.....	5.445 per cent.

Years ago the Norman cattle were almost mastodons, requiring a long time to fatten. At present the skeleton is very near the ground, while the frame is very strongly and well developed. The average height varies between 4.43 and 4.76 feet for cows, while it is not rare to find in the Cotentin and the valley of the Sarthe, where are the most remarkable animals of the Norman race, bulls and cows 5.25 feet and over in height.

Young beeves are usually sold between 3 and 4 years of age for fattening. When sold fat their live weight varies between 1,323 and 1,653 pounds, while the net yield of meat is from 54 to 56 per cent. The hide usually weighs about 110 pounds. The actual yield in beef of the Norman cattle has increased from 2 to 3 per cent within the last forty years.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *January 23, 1905.*

NEW MINT IN HANGCHAU.

(From United States Consul Anderson, Hangchau, China.)

A new mint for the coinage of copper cash and copper 5, 10, and 20 cash pieces is under construction in Hangchau, and from the scale upon which the work has been commenced it looks as though the plans of the provincial officials for an extensive establishment would be realized. The general understanding is that the present mint will continue operations. Altogether the output of the two concerns will be very large, aggregating 2,800,000 pieces per day.

The new mint is to have 20 machines and complete outfits, and will be arranged for day and night work. The machines have been ordered in Germany, and are similar to those now in use in the old mint, which was started in May, 1903. The old mint has 8 machines, and turns out about 800,000 pieces per day. The machines need repairs, and the motive power (2 engines of English make) is in bad shape, both because of original weakness and by reason of unskilled labor in its management. The engines and the stamping machines and accessories are of the cheapest sort. Having no experience to guide them, the authorities establishing the concern naturally took the cheapest in the market, and it is not certain that they were not wise, in view of the manner in which the machines are managed.

It is proposed to run the new mint on the most modern principles, but how far this promises real progress is hard to say. The buildings are being constructed in an unusually substantial manner for such concerns in this part of China, and a large number of workmen are engaged upon them. It is expected that the establishment will be in working order by the middle of May, 1905.

A large number of mints have been built in China in the past few years and the 10 and 20 cash pieces are rapidly superseding the old single cash pieces with the square hole in the middle for stringing them. At first in Hangchau the 10-cash coins were issued and sold at the rate of 110 or nominally 1,100 cash to the dollar (Mexican), but later the price was raised to 100 per dollar, nominally 1,000 cash to the Mexican dollar. With the Mexican dollar changing for an average of about 860 cash, however, and with Shanghai taking all of these coins it could get at 84 or nominally 840 cash to the dollar, the price was raised to 90 or 900 cash to the dollar, and it has remained at that point ever since. A large number of 2-cent or 20-cash pieces are being made, most of them being shipped to Ningpo, where they are very popular.

The Chinese authorities of this province are making no arrangements for the coinage of silver pieces of any denomination. From the manner in which they talk they seem to have no expectancy of

anything in the way of monetary reform in the Empire. Their coinage of these copper cent pieces seems to have been very profitable, but they will give no figures with respect to their profit.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 3, 1905.*

EUROPEAN COAL STATISTICS FOR 1904*

(From United States Consul-General Guenther, Frankfort, Germany.)

GERMANY.

The output of coal, coke, and briquettes in Germany in 1904 was as follows: Coal, 120,694,098 tons; lignite (brown coal), 48,500,222 tons; coke, 12,331,163 tons; briquettes, 11,413,467 tons, which exceeded the output of 1903 by the following amounts: Coal, 4,029,722 tons; lignite, 2,544,644 tons; coke, 821,844 tons; briquettes, 937,297 tons.

Germany imported 15,644,919 tons of coal, lignite, coke, and briquettes in 1904, and exported in the same period 21,653,242 tons of these fuels. Of the imports, 5,808,032 tons of black coal came from Great Britain, and 7,669,062 tons of lignite from Austria. The German coal exported goes mainly to Austria-Hungary, the Netherlands, Belgium, Switzerland, Denmark, France, and Russia.

Owing to the great miners' strike, the coal figures of Germany for 1905 will present a different showing.

OTHER COUNTRIES.

Belgium.—In 1904 Belgium imported 4,004,723 tons of coal and coke, and exported 6,486,143 tons.

Great Britain.—Great Britain exported 46,255,547 tons of coal, 1,237,784 tons of briquettes, and 756,949 tons of coke in 1904. The aggregate value was \$130,724,000.

Austria-Hungary.—During the eleven months ended November 30, 1904, Austria-Hungary imported 6,115,752 tons of coal and coke, and exported 7,953,887 tons, of which 6,252,868 tons were lignite.

Spain.—From January 1, to November 30, 1904, Spain imported 1,947,911 tons of coal and 160,561 tons of coke.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *January 26, 1905.*

TAXATION AND CONSUMPTION OF ALCOHOL IN ITALY.

Under date of January 20, 1905, the American minister in Rome (Mr. Meyer) transmits the following translation of a communication from the foreign office and ministry of finance of Italy relative to the taxation and consumption of alcohol in that Kingdom:

The taxation imposed in Italy on the manufacture of spirits is 190 lire per 100 liters (\$36.67 per 105 quarts) of anhydrous alcohol (pure alcohol), at the temperature of 15.56°, according to the centesimal thermometer (60° F.). Deductions are allowed of 10 per cent upon manufactures of the first category, those in which starch and starchy substances and remains of the manufacture and refining of sugar are used, and of 15 per cent upon manufactures of the second category, distillations of fruits, wines, dregs of pressed grapes, and other remains of wines only.

Deductions on products of factories provided with meters are allowed of 25 per cent for distillations of fruits, dregs of pressed grapes, and remains of wines, and of 30 per cent for distillations of wines and small wines. The cooperative societies manufacturing articles of the second category enjoy a deduction of 18 per cent, which may rise to 28 per cent if they distill dregs of pressed grapes and other remains mentioned, and 34 per cent if they distill wine only. The last two advantages depend, however, on the condition that the factories are furnished with meters.

Complete exemption from taxation is not granted, except to spirits derived from wine, dregs of pressed grapes, and other remains from wines when properly adulterated and intended only for lighting, heating, motor power, or other industrial and determined uses; while for spirits obtained from substances not containing wine the taxation is reduced to 15 lire per 100 liters (\$2.895 per 105 quarts) of pure alcohol if destined for the above-mentioned purposes. During the financial year 1903-4, for such purposes, 17,662 hectoliters (466,277 gallons) of pure alcohol were adulterated, of which 15,077 hectoliters (413,477 gallons) were from substances containing wine, and 2,585 hectoliters (52,800 gallons) from other substances.

COMMERCIAL EDUCATION IN GERMANY.

(From United States Consul Winter, Annaberg, Germany.)

Commercial schools form an integral part of the educational system of Germany, and demonstrate the immense importance attached to commercial instruction and the remarkable progress made in the foundation, organization, and maintenance of schools for the purpose. Inquiries made, in all directions, of manufacturers, merchants, exporters, importers, dealers, and commercial agents, elicit an almost unanimous expression of opinion as to the great benefits conferred upon German trade by the provision of thorough, practical, and theoretical instruction for all classes of persons engaged in commercial callings.

The German system of commercial instruction may therefore be regarded as a further cause of the remarkable development of trade which has manifested itself during the past quarter of a century. It is, of course, not the sole cause of its wonderful expansion any more than the entire development of German industries can be solely attributed to the system of technical education, but it has been beyond doubt a most important factor, and will continue to remain so in the future. In connection with this system great attention is directed to foreign languages, especially to English. A large and constantly increasing number of German merchants are now able to prepare and draw up their own catalogues and circulars in English without assistance, and although these efforts may sometimes be grammatically faulty, they serve their purpose well and contribute to the export of German goods to the United States and other English-speaking countries.

The thorough schooling in modern languages tends to deepen the tendency of the young German merchant to regard the whole civilized world as his commercial inheritance, and he prepares himself accordingly for the broad field of opportunity. That this tendency exists, and will in the future increase instead of diminish, is evident to those who have followed Germany's rapid change from a mainly agricultural to a mainly industrial and manufacturing nation, with the consequent vital necessity of maintaining and increasing and extending her exports.

JNO. F. WINTER, *Consul.*

ANNABERG, GERMANY, *January 17, 1905.*

TEXTILE MILLS IN INDIA, CHINA, JAPAN, AND RUSSIA.

(*From United States Consul Bradley, Manchester, England.*)

In view of the rapid growth of everything pertaining to the manufacture of textile fabrics and mill machinery in the United States, I transmit a list of mills, agents, etc., and in some cases the names of the English firms supplying machinery thereto, in India, China, and Japan, together with a nearly complete list of Russian mills.

These lists were compiled by W. H. Gribbin for the Indian Textile Diary for 1904, wherein they were printed.

WM. HARRISON BRADLEY, *Consul.*

MANCHESTER, ENGLAND, *December 24, 1904.*

Cotton mills in India.

Name and location of mill.	Owners, agents, etc., with office address.	Number of spindles.		Num-ber of looms.
		Mule.	Throstle.	
BOMBAY ISLAND.				
Alexandra Mill, Bombay.	F. D. Sassoon & Co., 2 Rampart row, Fort, Bombay.	11,270	18,060	29,350
Alliance Cotton Manufacturing Co., Ltd., Bombay.	Tapidas Virjidas & Co., 17 Elphinstone circle, Bombay.	15,804	17,828	33,432
Apollo Mills, The (late Anglo-Indian Spinning and Manufacturing Co.), Ltd., Bombay.	Greaves, Cotton & Co., 1 Forbes street, Bombay.	31,680	13,912	45,592
Assur Veerjee Mills, Ltd., Bombay.	Assur Veerjee & Co., 320 Mint road, Bombay.	20,316	6,960	27,276
Bomanjee Pettit Mills Co., Ltd., Bombay.	D. M. Pettit Sons & Co., 6 Hornby road, Bombay.	25,536	25,536	900
Bombay Cotton Manufacturing Co., Ltd., Bombay.	Jeevandass & Co., 5 Green street, Bombay.	15,504	8,676	24,180
Swan Mills (late Bombay National Manufacturing Co.), Ltd., Bombay.	Findlay Muir & Co., Hornby road, Bombay.	24,702	24,702	
Bombay United Spinning and Weaving Co., Ltd., Bombay.	Khatan Makanjee & Co., Hornby road, Bombay.	16,776	16,644	38,420
Briartania Mills Co., Ltd., Bombay.	Khatan Makanjee, Sons & Co., Hornby road, Bombay.	26,924	12,752	39,676
Century Spinning and Manufacturing Co., Ltd., Bombay.	Nowrojee Wadia & Co., Bellavista, Cumballa Hill, Bombay.	15,152	35,152	1,590
China Mills, Ltd., Bombay.	P. A. Hormarjee & Co., 4 Churchgate street, Fort, Bombay.	33,082	12,312	45,344
City of Bombay Manufacturing Co., Ltd., Bombay.	Muncherjee N. Banarjee & Co., 39 Hornby road, Bombay.	20,616	12,836	33,462
Colaba Land and Mill Co., Ltd., Bombay.	Bradbury, Brady & Co., 45 Apollo street, Bombay.	6,048	18,136	24,184
Connaught Mills Co., Ltd., Bombay.	Greaves, Cotton & Co., 1 Forbes street, Bombay.	32,760	32,760	
Coorla Spinning and Weaving Co., Bombay.	Jehangir Cowasjee Jehangir & Co., 23 Churchgate street, Bombay.	12,812	19,492	32,904
Currimbhoy Mills Co., Bombay.	Currimbhoy Ebrahim & Co., 13 Esplanade road, Bombay.	27,068	9,840	36,928
Crown Mills Co., Ltd., Bombay.	Choy Kooka & Co., Hornby road, Bombay.	34,168	5,376	39,544
Damodar Lakmidass Mills Co., Ltd., Bombay.	Purshotum Vithaldas & Co., 67 Meadow street, Bombay.	17,808	19,920	36,576
David Mills Co. (No. 1 mill), Ltd., Bombay.	Currimbhoy Ebrahim & Co., 13 Esplanade road, Bombay.	16,656	28,800	31,162
David Mills Co. (No. 2 mill), Ltd., Bombay.	Sassoon, J. David & Co., Esplanade road, Bombay.	16,192	14,960	31,162
Diamond Mills Co., Ltd., Bombay.	do	15,800	15,800	878
Dinshaw Pettit Mills Co., Ltd., Bombay.	Begm Mahomed Hajee Abdool Rahiman, Apollo street, Bombay.	17,120	24,984	42,104
Elphinstone Mills, Ltd., Bombay.	D. M. Pettit Sons & Co., Hornby road, Bombay.	24,264	24,264	
Elphinstone Pabany Mills Co., Ltd., Bombay.	Haje Mahomed, Haje Esmail & Co., 9 Hornby road, Bombay.	22,424	16,560	38,964
E. D. Sassoon Mill, Bombay.	Currimbhoy Ebrahim & Co., 13 Esplanade road, Bombay.	40,408	10,868	51,296
Empress Spinning and Weaving Co., Ltd., Bombay.	F. D. Sassoon & Co., 2 Rampart row, Bombay.	34,680	1,036	35,716
Francjee Pett Spinning and Manufacturing Co., Ltd., Bombay.	Greaves, Cotton & Co., 1 Forbes street, Bombay.	25,436	25,436	
Globe Manufacturing Co., Ltd., Bombay.	Sornabjee Sharpuree & Co., 10 Meadow street, Bombay.	29,680	29,680	
Gold Mohur Mills, Ltd., Bombay.	Captain Seth & Co., 17 Parsee Bazaar street, Bombay.	5,184	29,824	29,824
Hindustan Spinning and Weaving Co., Ltd., Bombay.	Thackersey Mooljee & Co., 12 Humnum street, Bombay.	21,428	7,044	28,464
Hong Kong Mills, Ltd., Bombay.	Goswinder Thackersey Mooljee & Co., 12 Humnum street, Bombay.	18,776	4,800	23,576
Hope Mills Co., Ltd., Bombay.	Rangildas Bhukandas & Co., 23 Churchgate street, Bombay.	25,800	25,800	520
Howard & Bullough Mills Co., Ltd., Bombay.	Greaves, Cotton & Co., 1 Forbes street, Bombay.	43,824	43,824	
Imperial Cotton Mill Co., Ltd., Bombay.	do	37,962	37,962	
Indian Manufacturing Co., Ltd., Bombay.	Damodar Thackersey Mooljee & Co., 12 Humnum street, Bombay.	14,872	13,788	29,660
Indo-China Manufacturing Co., Ltd., Bombay.	Alana Munjee & Co., 8 Hornby road, Bombay.	26,880	3,648	30,528
Jacob Sassoon Mill, Ltd., Bombay.	F. D. Sassoon & Co., Rampart row, Bombay.	31,248	61,592	92,840
Jatram Mills, Ltd. (late Wadia), Bombay.	Jatram Murratjee Sons & Co., 9 Humnum street, Bombay.	25,000	25,000	1,306

Cotton mills in India—Continued.

Name and location of mill.	Owners, agents, etc., with office address.	Number of spindles.		Num-ber of looms.
		Mule.	Throstle.	
BOMBAY ISLAND—continued.				
Jamies Spinning and Manufacturing Co., Ltd., Bombay.....	Raghoeji Khimibhoy, Bruce lane, Bombay.....	6,540	16,978	23,518
James Greaves Mills Co., Ltd., Bombay.....	Greaves, Cotton & Co., 1 Forbes street, Bombay.....	38,124	1,004	39,128
Jamshed Manufacturing Co., Ltd., Bombay.....	Hormasjee Sorabjee & Co., Sirdar's buildings, Bombay.....	14,048	14,748	28,796
Jamshed Wadia Mill Co., Ltd., Bombay.....	Bradbury, Brady & Co., Apollo street, Bombay.....	5,056	5,056	5,056
Jivraj Balloo Spinning and Weaving Co., Ltd., Bombay.....	Dwarakadas Viswanjee & Co., 53 Esplanade road, Bombay.....	16,524	17,596	34,120
Jivraj Manufacturing Co., Ltd., Bombay.....	Radymoney Jeejeebhoy & Co., 23 Churchgate street, Bombay.....	15,600	13,892	29,492
Khatan Makanjee Spinning and Weaving Co., Ltd., Bom-bay.....	Khatan Makangee & Co., Hornby road, Fort, Bombay.....	21,264	13,778	35,042
Kohinoor Mills Co., Ltd., Bombay.....	Killick, Nixon & Co., Apollo street, Fort, Bombay.....	15,456	23,184	38,640
Lakhmadas Khimjee Spinning and Weaving Co., Ltd., Bombay.....	Lakhmadas Khimjee Sons & Co., Hornby road, Bombay.....	35,196	9,280	44,476
Leopold Spinning, Bleaching, and Manufacturing Co., Ltd., Bombay.....	Greaves, Cotton & Co., 1 Forbes street, Bombay.....	10,728	.....	10,728
Lord Reay Manufacturing Co., Ltd., Bombay.....	Motilal Kanjee & Co., Parsee Bazaar street, Bombay.....	18,164	4,936	23,100
Madhowsjee Dharanji Manufacturing Co., Ltd., Bombay.....	Gokuldas Madhowsjee Sons & Co., 1 Bruce lane, Bombay.....	10,836	18,384	29,220
Mahalakshmi Spinning and Weaving Co., Ltd., Bombay.....	Gokuldas Gokuldas & Co., 2 Tamarind lane, Bombay.....	18,168	6,720	24,888
Mahomedbhai Mills, Ltd., Bombay.....	Currimbhoy Ebrahim & Co., 21 Esplanade road, Bombay.....	16,644	14,960	31,604
Manockjee Petit Manufacturing Co., Ltd., Bombay.....	D. M. Pettit, Sons & Co., 6 Hornby road, Bombay.....	66,882	66,882	1,805
Emperor Edward Spinning and Manufacturing Co. (late Mazon Co.), Ltd., Bombay.....	B. D. Pettit, Sons & Co., Elphinstone circle, Bombay.....	21,208	21,208	42,416
Moon Mills Co., Ltd., Bombay.....	P. A. Hormasjee & Co., 4 Churchgate street, Bombay.....	19,584	19,584	39,168
Morajee Gokaldas Spinning and Weaving Co., Ltd., Ltd., Bombay.....	Morajee Gokuldas & Co., 2 Tamarind lane, Bombay.....	8,892	31,628	40,520
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Dayaramjee Mistry at mill.....	3,712	3,712	7,424
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Haji Cassam Joosab, Sopari Bang road, Parel, Bombay.....	8,472	11,018	19,490
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Narajee Dwarakadas & Co., 53 Esplanade road, Bombay.....	10,848	10,080	20,928
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Greaves, Cotton & Co., 1 Forbes street, Bombay.....	41,564	41,564	83,128
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Vaunuladas J. Shamjee & Co., Apollo street, Bombay.....	14,368	31,200	45,568
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bom-bay.....	Kisonjee Munjee & Co., 17 Meadow street, Bombay.....	864	25,000	25,864
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Motilal Kanjee & Co., Sewree, Bombay.....	33,332	33,332	66,664
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Ranchodas Narotundas & Co., 9 Marine street, Bombay.....	34,320	34,320	68,640
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	K. M. Heemamank & Co., Churchgate street, Bombay.....	81,704	7,644	89,348
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Nanahoy B. Jeejeebhoy & Co., Hornby road, Bombay.....	16,252	16,252	32,504
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	J. H. Dani, mill, Bombay.....	21,800	21,800	43,600
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Vijdhadramas Armanan & Co., Dean lane, Bombay.....	28,781	28,781	57,562
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	David Sassoon & Co., Forbes street, Bombay.....	19,340	17,748	37,088
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Modjee Jaitha & Co., 3 Tamarind lane, Bombay.....	6,252	7,384	13,636
Morajee Gokaldas Spinning and Weaving Co., Ltd., Bombay.....	Sassoon, J. David, & Co., Esplanade road, Bombay.....	20,340	11,338	31,678

Star of India Mills, Ltd., Bombay	Viram	Elorubin & Co., Churchgate street, Bombay	31,584	9,968	41,552
Sun Mills, Ltd., Bombay	Parbh	Elorubin & Co., Churchgate street, Bombay	24,561	4,380	48,941
Svachchi Mills Co., Ltd., Bombay	Tata & Sons	Parsee Bazaar street, Bombay		89,120	1,146
The Textile Manufacturing Co., Ltd., Bombay	Tata & Sons	Parsee Bazaar street, Bombay		89,120	
Triumdas Mills Co., Ltd., Bombay	Adanji & Peerbhai	65 and 67, Hornby road, Bombay	28,256	12,024	41,280
Tarapore Spinning and Manufacturing Co., Ltd., Bombay	Adanji & Peerbhai	65 and 67, Hornby road, Bombay	17,124	28,216	45,340
Union Mills, Ltd., Bombay	Vithaldas	Gopaladas & Co., Humnum street, Bombay		29,774	30,432
Union Spinning and Manufacturing Co., Ltd., Bombay	Laug & Co.	121 Meadow street, Bombay	80,432		30,432
Victoria Manufacturing Co., Ltd., Bombay	Sir Dinshaw M. Petit	21 Hornby road, Bombay	8,624	10,824	14,868
Western India Spinning and Manufacturing Co., Ltd., Bombay	Thackersey	Mooljee Sons & Co., 12 Humnum street, Bombay	13,298	18,468	31,776
BOMBAY PRESIDENCY.					
Ahmedabad Advance Spinning and Weaving Co., Ltd., Ahmedabad	Tata & Sons	Parsee Bazaar street, Bombay		9,640	9,640
Ahmedabad Cotton Manufacturing Co., Ltd., Ahmedabad	Amratlal	Damoderdass & Co., mill, Ahmedabad		16,520	16,520
Ahmedabad Fine Spinning and Weaving Co., Ltd., Ahmedabad	Sorabji	Dinshawji Karaka & Co., Ahmedabad			321
Ahmedabad Ginning and Manufacturing Co., Ltd., Ahmedabad	Madhowlal	Runchorial, Saraspur, Ahmedabad	21,168	23,744	44,912
Ahmedabad Jubilee Spinning and Manufacturing Co., Ltd., Ahmedabad	Choonilal	Nagindas & Co., Ahmedabad		13,824	13,824
Ahmedabad Manufacturing and Calico Printing Co., Ltd., Ahmedabad	Karamchand	Premchand & Co., Jamalpur, Ahmedabad	1,176	27,444	28,620
Ahmedabad New Spinning and Manufacturing Co., Ltd., Ahmedabad	V. A. Desai & Co.	Ahmedabad		6,984	6,984
Ahmedabad Sarangpur Mills Co., Ltd., Ahmedabad	Lalloobhai	Rajchund & Co., Rajpur, Ahmedabad		22,144	22,144
Ahmedabad Spinning and Weaving Co., Ltd., Ahmedabad	Himatlal	Mortilal & Co., Ahmedabad		15,104	15,104
Ahmedabad Vepar Cotelak Spinning and Manufacturing Co., Ltd., Ahmedabad	Zaveri	Lallubhai Rajchand & Sons, Ahmedabad	12,906	20,188	33,094
Arjodeya Spinning and Weaving Co., Ltd., Ahmedabad	Mangaldas	Rajabhai & Co., Kalopur, Ahmedabad		10,820	10,820
Ahmedabad Silk and Cotton Manufacturing Co., Ltd., Ahmedabad	Maneklal	Mangaldas & Co., Ahmedabad		27,912	27,912
Beechdas Spinning and Weaving Co., Ltd., Ahmedabad	Sheth	Shamhooopressed Beechdas, Ahmedabad	10,484	6,284	16,768
Bharatkhand Cotton Mills Co., Ltd., Ahmedabad	K. Tribhuvandas & Co.	Ahmedabad		12,600	12,600
Commercial Cotton Mills Co., Ltd., Ahmedabad	Dhanyabhai	and Tricunial & Co., Ahmedabad		6,256	6,256
Gulstar Cotton Spinning and Manufacturing Co., Ltd., Ahmedabad	Balabhai	Damoderdass & Co., Ahmedabad	1,072	12,240	13,312
Gulstar Cotton Mills Co., Ltd., Ahmedabad	P. G. Manibhai	Kalpur gate, Ahmedabad		15,672	15,672
Gulstar Ginning and Manufacturing Co., Ltd., Ahmedabad	Jumabhai	Mansookbhai & Co., Premabhai gate, Ahmedabad	2,512	32,080	34,592
Gulstar Spinning and Weaving Co., Ltd., Ahmedabad	Kalidass	Umabhai & Co., Ahmedabad		17,704	17,704
Hiteshu Spinning and Manufacturing Co., Ltd., Ahmedabad	Girdharilal	Harilal & Co., Darapur gate, Ahmedabad	2,618	7,840	10,448
Hiteshu Spinning and Manufacturing Co., Ltd., Ahmedabad	Girdharilal	Harilal & Co., Darapur gate, Ahmedabad	2,608	6,240	8,848
Hiteshu Cotton Mills Co., Ltd., Ahmedabad	Ishwarlal	Bedarinath, Ahmedabad		7,800	7,800
Javeri Spinning and Manufacturing Co., Ltd., Ahmedabad	Manibhai	Brenabhai, Ahmedabad		12,688	12,688
Mackchork and Ahmedabad Manufacturing Co., Ltd., Ahmedabad	Seth Hirai	Tricunial Jamnadas, Ahmedabad			319
Mackelal Harilal Spinning and Manufacturing Co., Ltd., Ahmedabad	Harilal	Harivallabdas & Co., Sarangpur, Ahmedabad	17,076	8,812	25,888

Cotton mills in India—Continued.

Name and location of mill.	Owners, agents, etc., with office address.	Number of spindles.		Num-ber of looms.
		Mule.	Throstle.	
BOMBAY PRESIDENCY—continued.				
Motilal Hirabhai Spinning, Weaving, and Manufacturing Co. Ltd., Ahmedabad.	Munsookbhia Bhugabhai & Co., Ahmedabad.		34,060	34,060
Purshottam Spinning and Manufacturing Co., Ltd., Ahmedabad.	Munsookbhail Bhugubhai & Co., Ahmedabad.		12,728	12,728
Rajunagar Ginning and Manufacturing Co., Ltd., Ahmedabad.	Ranchorlal Hiralal, Ahmedabad.		10,600	10,600
Rejanazar Spinning, Weaving, and Manufacturing Co., Ltd., Ahmedabad.	Mangaldas G. Parekh, Ahmedabad.		12,772	12,772
Saraspur Cotton Manufacturing Co., Ltd., Ahmedabad.	Lalabhai Dalpatbhai & Co.		31,056	31,056
Motilal Cotton Manufacturing Co., Ltd., Broach.	Dwarakadas Vibhoochandras 2 Dean lane, Fort, Bombay.	13,584	18,040	342
Whittle Spinning and Manufacturing Co. (3 mills), Ltd., Broach.	Jeebbhai Muggunilal & Co., White road, Broach.	44,993	49,225	517
Tapti Manufacturing Co., Ltd., Surat.	Premchund Rovechund & Co., Apollo street, Fort, Bombay.	10,326	1,200	287
Goolam Baba Spinning and Weaving Co., Ltd., Surat.	Dhirlal Bhumabhai & Co., near railway station, Surat.		15,312	15,312
Jadur Alee Spinning and Weaving Co., Ltd., Surat.	Cheornilal Nagaldas & Co., Begam Wari, Surat.	9,625	9,342	186
Baroda Spinning and Weaving Co., Ltd., Baroda.	H. H. Maharajah Gaekwar, Baroda.	5,068	10,968	255
Gokak Water Power and Manufacturing Co., Ltd., Gokak Falls, Southern Mahratta.	Ritchie Stewart & Co., 11 Elphinstone circle, Fort, Bombay.		69,324	69,324
Kandesh Spinning and Weaving Mill Co., Ltd., Kandesh.	Mooljee Jaltha & Co., 3 Tamarind lane, Bombay.	1,384	19,564	415
Munore Mill, Nariad.	Munordas Hurukchand, Nariad.	8,810	14,548	
Morvi Spinning and Weaving Mill, Morvi.	H. H. The Thakore of Morvi, Morvi.	14,154	14,154	86
Mundwa Cotton Mills, Ltd., Poona.	N. Prudhmjee & Co., Mundwa, Poona.		2,000	
Poona Cotton and Silk Manufacturing Co., Ltd., Poona.	Hindumal Balimkund & Co., near railway station, Poona.		11,908	320
Lakshmi Cotton Manufacturing Co., Ltd., Sholapore.	The Bombay Co. Ltd., 4 Elphinstone circle, Fort, Bombay.		85,300	320
Narsingjee Manufacturing Co., Ltd., Sholapore.	G. Narsingjee Malappa Warad & Co., Sholapore.		43,000	43,000
Sholapore Spinning and Weaving Co., Ltd., Sholapore.	Morarijee Gokuldas & Co., 2 Tamarind lane, Fort, Bombay.	11,320	34,448	580
Southern Mahratta Spinning and Weaving Co., Ltd., Hubli.	P. Chrysstal & Co., 11 Elphinstone circle, Fort, Bombay.	5,136	29,272	34,408
Virangam Spinning and Manufacturing Co., Ltd., Virangam.	Whittle & Co., Virangam.	5,004	12,784	240
Virangam New Spinning and Weaving Co., Ltd., Virangam.	Purbhoolal Jeebhai & Co., Virangam.		12,844	126
Venishunker Luxmishunker Cotton Mills Co., Ltd., Bhowani.	Venishunker Luxmishunker & Co., 99 Apollo street, Fort, Bombay.	2,386	11,962	208
Gadag Cotton Spinning and Weaving Co., Ltd., Gadag.	P. & J. Athavale & Co., Gadag.		10,000	10,000
Sir Wuchji Wadhwan Camp Manufacturing Co., Ltd., Wadhwan.	Motee Jetha & Co., Churchgate street, Fort, Bombay.		10,000	10,600
RAJPUTANA.				
Krishna Mills, Ltd., Beawar.	Thakurdas Khimraj & Co., Beawar.	12,312		12,312
Maharaja Kishengurh Sanyog Mills Co., Ltd., Kishengurh.	Pratil Jeykhandadas, Kishengurh.	9,188	600	10,288

L. H. R. A. R.	CENTRAL PROVINCES.	Aurangabad Spinning and Weaving Co., Ltd., Aurangabad.				16,306	2,656	13,650			100
		Perat Manufacturing Co., Ltd., Budneri				17,500	17,500				350
L. H. R. A. R.	CENTRAL PROVINCES.	Central India Spinning, Weaving, and Manufacturing Co., Ltd., Nagpur.				64,788	64,788				1,400
		Central Provinces Svedeshi Spinning, Weaving, and Manufacturing Co., Ltd., Nagpur.				16,508	16,508				200
		Bengal Nagpur Cotton Mills Ltd., Raipur.				14,768	15,176	408			210
		Gokuldas Balabada Cotton Manufacturing Co., Ltd., Rani Jubbulpore.				17,836	17,836	2,860			286
		Pulgaon Spinning, Weaving, and Manufacturing Co., Ltd., Pulgaon Wardha district.				11,612	17,564	5,952			162
		Hingunghat Mill Co., Hingunghat.				24,912	32,808	7,896			150
		Rai Sahab Rekchund Mohota Spinning and Weaving Mill, Ltd., Hingunghat Wardha district.				14,688	14,688				
		HYDERABAD.									
		Hyderabad (Deccan) Spinning and Weaving Co., Ltd., Hyderabad (Deccan).				15,976	14,480	1,496			200
		Mahabooob Shahi Kulbarga Mills Co., Ltd., Kulbarga (Deccan).				21,086	15,036	6,000			224
L. H. R. A. R.	CENTRAL INDIA.	Indore State Cotton Mills, Ltd., Indore.				16,556	11,506	4,960			464
		Ujjain Spinning and Weaving Co., Ltd., Ujjain.				14,846	8,704	5,644			
		BENGAL PRESIDENCY.									
		Bengal Mills Co., Ltd., Calcutta.				86,000	30,000	56,000			
		Bowrean Cotton Mills Co., Ltd., Fort Gloster, near Calcutta.				63,148	19,986	43,212			
		Dunbar Cotton Mill Co., Ltd., Shamnager, near Calcutta.				86,980	34,872	51,184			
		Empress of India Cotton Mills Co., Ltd., Budge Budge, near Calcutta.				34,812	3,244	29,568			
		Garden Reach Spinning and Manufacturing Co., Ltd., 22 Garden Reach, Calcutta.				34,693		34,693			
		Goosey Cotton Mills Co., Ltd., Howrah, Calcutta.				60,000	20,000	40,000			
		New Ring Mill Co., Ltd., Golobornah, Calcutta.				20,160	20,160	4,480			
L. H. R. A. R.	PUNJAB.	Ramdayal Cotton Mills, Ltd., Goosery, near Calcutta.				14,380	14,380	4,480			
		Serampore Cotton Mills, Ltd., Serampore.				25,446	25,446	2,992			200
		Victoria Cotton Mills Co., Ltd., Goosery, near Calcutta.				12,000	12,000				
		Delhi Cloth and General Mills Co., Ltd., Rohtak road, Delhi.				20,456	4,328	16,128			160

Cotton mills in India—Continued.

Name and location of mill.	Owners, agents, etc., with office address.	Number of spindles.		Num-ber of looms.
		Mule.	Throstle	
PUNJAB—continued.				
Jumna Mills, Ltd., Sabzi Mandi, Delhi.....	Saran & Co., Ltd., Sabzi Mandi.....	11,376	4,560	193
Krishna Mills Co., Ltd., Mithal, Delhi.....	Lala Shri Krishna Dass, Mithal Kapul, Delhi.....	22,968		75
Mela Ram Cotton Mills, Ltd., Mela Ram road, Lahore.....	Lala Ram Sarn Dass and Lala Hari Krishan Dass, Mela Ram road, Lahore.....	6,400	6,248	190
Hamaoman & Mahadeo Spinning and Weaving Mills, Sabzi Mandi, Delhi.....	Sheth Kaubija Lala Bogle, Bagli Dwal, Delhi.....	11,376	4,560	
Amritsar Mills Co., Ltd., Amritsar.....	C. W. Davison, Amritsar.....	10,000		
NORTHWEST PROVINCES AND OUDH.				
John's Coronation Spinning Mill, Balangung, Agra.....	A. John & Co., 49 Cantonments, Agra.....	10,752		
Agra Spinning and Weaving Mills Co., Ltd., Agra.....	do.....	13,992		
John's Spinning Mills, Agra.....	do.....	16,408		
Cawnpore Cotton Mills Co., Ltd., Cousepurgur, Cawnpore.....	Lala Mulechand, Cawnpore.....	63,648	9,286	750
Elgin Mills Co., Cawnpore.....	W. G. Bevis, Civil Lines, Cawnpore.....	33,102	6,852	
Meer Mills Co., Ltd., Cawnpore.....	S. M. Johnson, Cawnpore.....	43,592	11,632	1,251
Victoria Mills Co., Ltd., Cawnpore.....	Altherton West, Gwalior, Cawnpore.....	43,268	80,948	650
Sri Ganajee Cotton Mills Co., Ltd., Naitwa, Mirzapore.....	Babu Behari Lal, Naitwa, Mirzapore.....	5,040	10,440	
Ramchand Hardeo Dass Cotton Spinning Mill Co., Agra road, Hathras City.....	Ramchand Hardeo Dass & Co., Hathras City.....	12,648	8,255	
MADRAS PRESIDENCY.				
Madam Sebhanna Cotton Manufacturing Co., Bellary.....	Madam Sebhanna Chetty & Co., Bellary.....	17,000		
Buckingham Mill Co., Ltd., Perambur, Madras.....	Binnay & Co., 7 Armenian street, Madras.....	28,228		820
Carmatic Mill Co., Ltd., Perambur, Madras.....	do.....	29,752		977
Madura Mills Co., Madura, Madras.....	A. & F. Harvey, Madura.....	86,344		
Madras United Spinning and Weaving Co., Ltd., Choolay, Madras.....	Mooljee Jaitha & Co., 3 Tamarind lane, Fort, Bombay.....	37,412		
Southern India Spinning and Weaving Co., Ltd., Royapuram, Madras.....	Mooljee Jaitha Sons & Co., 3 Tamarind lane, Fort, Bombay.....	14,658	7,360	
Malabar Spinning and Weaving Co., Ltd., Calicut, Malabar.....	Somusundram Chetty, Calicut.....	18,260		
Coral Mills Co., Ltd., Tuticorin.....	A. & F. Harvey, Tuticorin.....	44,660	1,264	
Coimbatore Spinning and Weaving Co., Ltd., Coimbatore.....	Arbuthnot & Co., Madras, T. Staines & Co., Coimbatore.....	24,076		
Kolliat Spinning Mills Co., Ltd., Kolliat, Tinnevely.....	V. M. V. Ganay & Bros., Kolliat.....	15,196		60
Tinnevely Mills Co., Ltd., Ambasamudram, Tinnevely.....	A. & F. Harvey, Ambasamudram.....	16,844		
TRAVANCORE.				
Darragh Spinning Mill, Quilon, Travancore.....	Executors of the Late James Darragh, Quilon.....	1,968	24,192	20,600

MYSORE.					
Bangalore Woolen, Cotton, and Silk Mills Co., Ltd., Bangalore.	Binny & Co., Madras and Bangalore.	1,568	14,160	15,728	44
Mysore Spinning and Manufacturing Co., Ltd., Bangalore.	P. Chrysal & Co., 11 Elphinstone circle, Fort, Bombay	4,464	11,160	15,624	220
PONDICHERRY.					
Bodier Mill (late Anglo-French Textile Co.), Ltd., Pondicherry.	Best & Co., Madras and Pondicherry.	.....	40,000	40,000	650
Henri Gaebele Spinning and Weaving Mills, Modelarpet, Pondicherry.	H. Gaebele, Modelarpet, Pondicherry.	.....	2,000	2,000	72
Société Industrielle de Cossapaléon, Ltd., Cossapaléon, Pondicherry.	A. & F. Harvey, Pondicherry.	.....	3,632	3,632	120
Savans Société Anonyme, Ltd., Pondicherry.	Ernest Cornet Savans, Pondicherry.	6,290	10,710	17,000	465
Flaturret Tissageet Gaebele & Co., Ltd., Pondicherry.	Gaebele Frères, Pondicherry.	1,100	3,780	4,880	120
CEYLON.					
Ceylon Spinning and Weaving Mills, Colombo.	Ahmedbhoi Habibbhoi and T. A. J. Noorbhai, Samuel street, Bombay	.....	9,600	9,600	231

Indian cotton mills—English agents.

Name and location of mill.	Agents, with office address.
Alexandra Mill, Bombay	
E. D. Sassoon Mill, Bombay	E. D. Sassoon & Co., 9 Fenchurch avenue, London, E. C.; 36 Princess street, Manchester.
Anglo-Indian Spinning and Manufacturing Co., Ltd., Bombay	
Comnught Mill, Ltd., Bombay	
Empress Spinning and Weaving Co., Ltd., Bombay	
Howard & Bulough Mills Co., Ltd., Bombay	
Imperial Cotton Mills Co., Ltd., Bombay	
James Greaves Mills Co., Ltd., Bombay	James Greaves & Co., 2 Ridgefield, Manchester.
Leopold Spinning, Bleaching, and Manufacturing Co., Ltd., Bombay	
New Empress Spinning Mill Co., Ltd., Bombay	
Veragum Spinning and Manufacturing Co., Ltd., Veragum	
Whittle Spinning and Manufacturing Co., Ltd., Broach	
Bombay United Spinning and Weaving Co., Ltd., Bombay	
Britannia Mills Co., Ltd., Bombay	
Hindustan Spinning and Weaving Co., Ltd., Bombay	
Hongkong Spinning and Manufacturing Co., Ltd., Bombay	
Indian Manufacturing Co., Ltd., Bombay	
Indo-China Manufacturing Co., Ltd., Bombay	Purshotum, Visram & Co., 2 Marsden street, Manchester.
Jalram Mill (late Wadia), Ltd., Bombay	
Jivraj Balloo Spinning and Weaving Co., Ltd., Bombay	
Khatun Makanjee Spinning and Weaving Co., Ltd., Bombay	
Star of India Mills, Ltd., Bombay	
Western Indian Spinning and Manufacturing Co., Ltd., Bombay	
Colaba Land and Mill Co., Ltd., Bombay	
Jehangir Wadia Mill Co., Ltd., Bombay	
Sri Gangaji Cotton Mills Co., Ltd., Natva	Bradbury, Brady & Co., 40 Brazennose street, Manchester.
Pranjli Pett Spinning and Weaving Co., Ltd., Bombay	S. & E. Ransome & Co., Billiter Buildings, 49 Leadenhall street, London, E. C.
Mazagon Spinning and Weaving Co., Ltd., Bombay	
Bezar Manufacturing Co., Ltd., Budhna	Dadaabhoi & Co., Wool Exchange, Coleman street, London, E. C.
Romanjee Pett Mills Co., Ltd., Bombay	
Dinshaw Pett Mills Co., Ltd., Bombay	
Manoogjee Pett Manufacturing Co., Ltd., Bombay	R. C. Antrobus & Co., 27 Austin Friars, London, E. C.
Oriental Spinning and Weaving Co., Ltd., Bombay	
Victoria Manufacturing Co., Ltd., Bombay	
Century Spinning and Manufacturing Co., Ltd., Bombay	
Textile Manufacturing Co., Ltd., Bombay	
China Mills Co., Ltd., Bombay	
Currimbhoy Mills Co., Ltd., Bombay	Peter Harrower, 134 Bath street, Glasgow.
Ebrahimjee Mills Co., Ltd., Bombay	
Mahomedbhoy Mills Co., Ltd., Bombay	
Bemodur Lakhimdas Mills Co., Ltd., Bombay	Fraser, Dharwar & Co., Leadenhall street, London, E. C.
Queen Spinning and Manufacturing Co., Ltd., Bombay	John Elliott & Sons, Bush House, Bush lane, Cannon street, London, E. C. Gaddum & Co., South street, Manchester.

Indian cotton mills—English agents—Continued.

Name and location of mill.	Agents, with office address.
Madura Mills Co., Ltd., Madras	Harvey Bros., 16 Mark lane, London, E. C.
Coral Mills Co., Ltd., Tuticorin	
Tinnevely Mills Co., Ltd., Tinnevely	
Cossapalem Mills, Pondicherry	
Beecherdass Spinning and Weaving Co., Ltd., Ahmedabad	
Ahmedabad Cotton Manufacturing Co., Ltd., Ahmedabad	
Purshotum Spinning and Manufacturing Co., Ltd., Ahmedabad	
Darragh Spinning Mill, Quilon	
Anglo-French Textile Co., Ltd., Pondicherry	
Savanna Société Anonyme, Ltd., Pondicherry	
Rodier Mill, Pondicherry	Lyons, Lord & Co., Princess street, Manchester.
Madum Seshanna Cotton Manufacturing Co., Bellary	M. Shaw & Bros., 40 Love lane, Heaton Norris, Stockport.
	Shapurjee & Ratanisaw.
	Darragh, Small & Co., 134 Fenchurch street, London, E. C.
	Baarlain & Co., Blackfriars street, Manchester.
	Administration de la Savana Société Anonyme, 1 Rue Esprit des Lois, Bordeaux, France.
	Anglo-French Textile Co., Equitable buildings, St. Ann street, Manchester.
	Felber, Jucker & Co., Peter street, Manchester.

Cotton mills in China (working and under construction).

Name and location of mill.	Spindles.		Looms.	Manager.	Spinning machinery by—
	Projected.	Working.			
Hua Sheng Mill, Shanghai.....	65,000	63,000	750	A. W. Danforth.....	Dobson & Barlow, Ltd.
Ta Sheng Mill, Shanghai.....	25,000	23,000	.....	do.....	Do.
Yu Yuen Mill (Nos. 1 and 2 mills), Shanghai.....	42,000	42,000	.....	.....	Do.
Yu Lung Cotton Spinning Co. (late Chang-Kee), Shanghai.....	15,000	15,000	.....	.....	Ass. Lees & Co., Ltd.
Soy Chee Mill, Shanghai.....	40,000	40,000	.....	.....	Do.
Chinese New Cotton Mill, Shanghai.....	15,000	15,000	200	.....	Dobson & Barlow, Ltd.
International Cotton Mill, Shanghai.....	42,000	42,000	.....	E. Turner.....	Ass. Lees & Co., Ltd.
Ewo Cotton Mill, Shanghai.....	50,000	50,000	.....	J. Kerfoot.....	Platt Bros. & Co., Ltd.
Laon Kung Mhow Cotton Spinning and Weaving Mills, Shanghai.....	40,000	30,000	.....	A. R. Murphine.....	Tweedales & Smalley.
Ningpro Spinning Co., Ningpo.....	11,048	11,048	300	.....	Do.
Hupei Government Cotton Mills (No. 1 mill), Wuchang.....	80,000	80,000	1,000	.....	Platt Bros. & Co., Ltd.
Hupei Government Cotton Mills (No. 2 mill), Wuchang.....	25,000	20,000	.....	.....	Brooks & Dorey, Ltd.
Soo-Chow Mills, Soo-Chow.....	25,000	18,200	.....	W. C. Wood.....	Dobson & Barlow, Ltd.
Hangchow Cotton Mills, Hangchow.....	10,000	14,700	.....	.....	John Hetherington & Sons, Ltd.
Woosie Cotton Mills, Woosie.....	25,000	10,000	.....	.....	Dobson & Barlow, Ltd.
Tung-Chow Cotton Mill, Tung-Chow.....	50,000	20,000	.....	.....	John Hetherington & Sons, Ltd.
Hongkong Spinning and Weaving Co., Ltd., Hongkong.....	.....	20,000	.....	A. Shaw.....	Platt Bros. & Co., Ltd.

Kishiwada Cotton Spinning Mill	22,656	22,656	20,352	20,352	23	29	184	490,992	480,992	4750	.....
Kashiwazaki Cotton Spinning Mill	4,992	4,992	3,879	3,879	24	27	.....	105,683	105,683	1,0383	.....
Kofu Cotton Spinning Mill	2,292	2,292	2,292	2,292	23	23	144	25,517	25,517	8916	.....
Koriyama Cotton Spinning Mill	20,352	20,352	20,352	20,352	22	27	20	447,425	447,425	7883	.....
Kuwana Cotton Spinning Mill	19,200	19,200	15,360	15,360	23	27	15	321,250	321,250	7583	.....
Kurashiki Cotton Spinning Mill	21,672	21,672	20,468	20,468	24	28	16	543,200	543,200	9333	.....
Kyoto Cotton Spinning Mill	9,984	9,984	9,216	9,216	24	28	16	266,000	266,000	1,1000	.....
Kinshu Cotton Spinning Mill	56,205	56,205	50,343	50,343	23	25	18	953,291	953,291	8500	.....
Kunishima Cotton Spinning Mill	9,984	9,984	9,984	9,984	23	28	16	199,400	199,400	1,1000	.....
Matsuyama Cotton Spinning Mill	6,528	6,528	6,300	6,300	24	29	18	155,916	155,916	8500	.....
Mayagawa Cotton Spinning Mill	2,000	2,000	2,367	2,367	24	27	35	227,440	227,440	5500	.....
Miyagi Cotton Spinning Mill	25,964	25,964	22,387	22,387	22	29	10	20,191	20,191	9416	.....
Mishima Cotton Spinning Mill	736	736	736	736	22	29	10	10	10	2916	.....
Miyagi Cotton Spinning Mill	55,872	55,872	54,082	54,082	23	28	20	1,211,141	1,211,141	8063	.....
Mori Cotton Spinning Mill	30,384	30,384	17,211	17,211	23	29	17	338,600	338,600	6750	.....
Nagoya Cotton Spinning Mill	30,596	30,596	7,664	7,664	24	27	20	186,876	186,876	9000	.....
Nishinari Cotton Spinning Mill	44,160	44,160	38,685	38,685	23	28	80	124,583	124,583	1166	.....
Nippon Cotton Spinning Mill	13,548	13,548	13,548	13,548	23	28	16	880,850	880,850	9883	.....
Nippon Cotton Spinning and Weaving Mill	5,992	5,992	5,600	5,600	11	27	31	83,767	83,767	5667	.....
Nippon Hosoto Spinning Mill	14,504	14,504	10,368	10,368	22	26	18	289,566	289,566	1,000	.....
Nakatsu Cotton Spinning Mill	10,368	10,368	27,264	27,264	23	28	18	541,641	541,641	7000	.....
Osaka Cotton Spinning Mill	27,264	27,264	30,304	30,304	23	28	16	582,825	582,825	8666	.....
Okayama Cotton Spinning Mill	27,352	27,352	26,136	26,136	23	25	16	467,250	467,250	4084	.....
Onagigawa Cotton Spinning Mill	4,964	4,964	4,310	4,310	22	26	32	1,412,583	1,412,583	1,0000	.....
Osaka Cotton Spinning Mill	55,344	55,344	50,785	50,785	23	28	16	97,200	97,200	7916	.....
Osaka Doubling Mill	4,608	4,608	4,560	4,560	22	27	22	53,133	53,133	1,4167	.....
Osaka Yarn Co.	3,336	3,336	1,676	1,676	23	22	10	457,766	457,766	1,0000	.....
Sakai Cotton Spinning Mill	16,128	16,128	16,128	16,128	23	28	18	43,671	43,671	1,5000	.....
Sanshugumi Cotton Spinning Mill	960	960	960	960	23	29	8	241,917	241,917	9250	.....
Sanuki Cotton Spinning Mill	10,000	10,000	9,200	9,200	23	28	16	409,641	409,641	2,9166	.....
Senshu Cotton Spinning Mill	19,284	19,284	16,521	16,521	21	27	20	1,870,625	1,870,625	1,3000	.....
Settsu Cotton Spinning Mill	50,628	50,628	50,608	50,608	22	28	16	19,842	19,842	6250	.....
Shimada Cotton Spinning Mill	1,420	1,420	1,420	1,420	22	22	22	.....	.....	.....	.....

Jute mills in India.

Mill.	Agent, etc.	Address.
CALCUTTA.		
Barangore Jute Factory, Ltd.....	George Henderson & Co....	100 Clive street, Calcutta.
Budge-Budge Jute Co., Ltd.....	Andrew Yule & Co.....	Clive row, Calcutta.
Champdany Jute Co., Ltd.....	Finlay, Muir & Co.....	21 Canning street, Calcutta.
Central Jute Mills Co., Ltd.....	Andrew Yule & Sons.....	7 Clive row, Calcutta.
Clive Jute Mills Co., Ltd.....	Gladstone, Wyllie & Co....	101 Clive row, Calcutta.
Fort Gloster Jute and Manufacturing Co., Ltd.....	Kettlewell, Bullen & Co....	5 Mission row, Calcutta.
Ganges Manufacturing Co., Ltd.....	McNeill & Co.....	Clive Ghat street, Calcutta.
Gourepore Co., Ltd.....	Barry & Co.....	5 Lyons range, Calcutta.
Hoogly Mills Co., Ltd.....	Gillanders, Arbuthnot & Co.	Clive street, Calcutta.
Howrah Mills Co., Ltd.....	Ernstensen & Co.....	Clive row, Calcutta.
Hastings Mill.....	Birkmyre Bros.....	6 Clive row, Calcutta.
Indian Jute Mills Co., Ltd.....	MacKinnon, Mackenzie & Co.	Strand road, Calcutta.
Kamarbatty Co., Ltd.....	Jardine, Skinner & Co.....	4 Clive row, Calcutta.
Kankarragh Co., Ltd.....	Jardine, Skinner & Co.....	4 Clive row, Calcutta.
Samnugger Jute Factory Co., Ltd.....	Thomas Duff & Co., Ltd....	15 Clive row, Calcutta.
Seebpore Jute Manufacturing Co., Ltd.....	Apcar & Co.....	19 Radha Bazar street, Calcutta.
Seranjunge Jute Co., Ltd.....	A. Mumford.....	
Titagar Jute Factory Co., Ltd.....	Thos. Duff & Co., Ltd.....	15 Clive row, Calcutta.
Union Jute Co., Ltd.....	Bird & Co.....	39 Strand, Calcutta.
Victoria Jute Co., Ltd.....	Thos. Duff & Co., Ltd.....	15 Clive row, Calcutta.
Wellington Jute Mills.....	James Finlay & Co.....	Calcutta.
NORTHWEST PROVINCES.		
Northwest Provinces Jute Mill Co., Ltd., Cawnpore.	Beer Bros.....	Cawnpore.

Woolen mills in India.

Mill.	Agent.	Address.
Bombay Woolen Mills Co., Ltd.....	Ewart Latham & Co.....	Tamarind lane, Fort, Bombay.
Cawnpore Woolen Mills Co., Ltd.....		Cawnpore.
Egerton Woolen Mills Co., Ltd.....		Dharival, Punjab, N. W. P.

Silk mills in India.

Mill.	Agent.	Address.
Chhoi Silk Manufacturing Co., Ltd.....	Cowasjee Nowrojee & Co....	Mody Bay, Fort, Bombay.
Sassoon and Alliance Silk Manufacturing Co., Ltd.	David Sassoon & Co.....	Forbes street, Fort, Bombay

Textile mills in Russia.

Mill.	Location.	Head office address.
Albert Hübner Cotton Mills.....	Moscow	Moscow.
A. Y. Polyakoff Znamensky Manufacturing Co.....	do	do.
Babkin Bros. Koonavino Cloth Mills	do	do.
Belashinsky Mills Co	do	do.
Bedtore Cotton Mills	do	do.
Danilofsky Mills	do	do.
Danilofsky Woolen Spinning Mills	do	do.
D. A. Dimlen Cotton Finishing Factory	do	do.
Emil Zindel Manufacturing Co.....	do	do.
Feodor Stecherbakoff Sons Manufacturing Co.....	do	do.
Fryanofsky Woolen Spinning Mill	do	do.
I. & M. Morgoonoff & Sons	do	do.
I. Labzin & V. Gryaznoff Manufacturing Co.....	do	Pavlofsky-posad.
Ivan Demin Sadkofsky Manufacturing Co	do	Moscow.

Textile mills in Russia—Continued.

Mill.	Location.	Head office address.
Iokisch Cloth Mills	Moscow	Moscow.
I. F. Waheme Dye Works	do	Do.
I. W. Gressar & Co.	do	Do.
Ivan Boolikoff Manufacturing Co.	do	Do.
Ludwig Rabenek Manufacturing Co.	do	Do.
Luke Belayaff Sons Cotton Mill.	do	Do.
Moscow Dye Works	do	Do.
M. Popoff & Sons Cloth Manufacturing and Trading Co.	do	Do.
Moscow Lace Manufacturing Co.	do	Do.
M. A. Zhookoff Vorobinsk Spinning Mill.	do	Do.
M. Dresmeyer Moscow Factory	do	Do.
N. N. Konshin Manufacturing Co., Serpookoff	do	Do.
"Nicholas Tretyakoff & Co." Manufacturing and Trading Co.	do	Do.
Nosoff Bros. Manufacturing and Trading Co.	do	Do.
N. A. Sokoloff Successors	do	Do.
Pelagia Tchernishoffs Sons Cloth Mills	do	Do.
P. Malyutin Sons Manufacturing and Trading Co.	do	Do.
"P. N. Gryaznoff" Pokrofsky Cotton Manufacturing Co.	do	Do.
Prokharoff Trigorny Cotton Mills.	do	Do.
Pokrofsky Cotton Mills	do	Do.
Pooshkino Cloth Mills	do	Do.
Ryabovo Cotton Mills	do	Nefedovo.
S. & G. Balashoff Sons Manufacturing Co.	do	Moscow.
Spasso-Setun Carpet Manufacturing Co.	do	Do.
Tchetverikoff Gorodistche Cloth Mills	do	Do.
Tsarefsky Vienna Wool Spinning Mill	do	Do.
Troitsky Cloth Mills	do	Do.
Vikoola, Morozoff Sons, Ivan Polyakoff & Co. Cotton Mills.	do	Do.
Vokresensky Factory	do	Do.
Zakharoff Bros. Industrial and Commercial Co.	do	Do.
K. I. Pahis Alexandro-Nevsky Mills	St. Petersburg	St. Petersburg.
Narva Cloth Mills	do	Narva.
Nevsky Thread Mills	do	St. Petersburg.
Alexander Stecherbakoff & Sons Flax Mills	Vladimir	Kokhma.
Asaph Baranoff Manufacturing Co. at Sokolovo	do	Moscow.
Baranoff Manufacturing Co.	do	Do.
Gorkinsk Manufacturing Co.	do	Do.
I. V. Neburchiloff Manufacturing Co.	do	Shuya.
Ivan Garelin & Sons Manufacturing Co.	do	Ivanovo-Voznesensk.
Ivanovo Voznesensk Weaving Mills	do	Do.
Jos Senkoff Flax Spinning Mills	do	Moscow.
Kouvyefsky Print Factory	do	Ivanovo-Voznesensk.
Lezhneff Manufacturing Co.	do	Moscow.
Moorom Flax Mills	do	Moorom.
N. M. Poloschin Successors Manufacturing Co.	do	Ivanovo-Voznesensk.
N. F. Zookoff Successors	do	Do.
Nicanor Derbeneff Sons Manufacturing Co.	do	Do.
Peroslav Manufacturing Co.	do	Moscow.
Peter Derbeneff & Sons Manufacturing Co.	do	Do.
Prasovia, Vitoff & Sons Manufacturing Co.	do	Ivanovo-Voznesensk.
Rodion, Bozhanhoff, Havrofsky Manufacturing Co.	do	Do.
Shuya Manufacturing Co.	do	Shuya.
Sobinsky Cotton Mills	do	Moscow.
S. J. Senkoff Vvaznikoff Mills.	do	Vyazniki.
Stephen Poyvlin Manufacturing Co.	do	Do.
Tezino Cotton Mills	do	Moscow.
V. F. Dermidoff Flax Mills	do	Vyazniki.
V. V. & A. Yasuninsky Manufacturing Co.	do	Kokhma.
Vurievo-Polsky Manufacturing Co.	do	Moscow.
Gerasim Razorenoff and Ivan Kokoreff	Kostroma	Tezino.
Ivan Konovaloff & Sons Manufacturing Co.	do	Moscow.
Manufacturing Company founded by I. I. Skvortsoff	do	Sered.
Nicholas Razorenoff and Michael Kornilitsin Manufacturing Co.	do	Moscow.
Yuryevetz Flax Spinning Mills	do	Yuryevetz.
Zotoff Bros. Kostroma Flax Spinning Co.	do	Kostroma.
Hillel and Dittrich Girardovo Manufactory	Warsaw	Girardovo.
Russo-Italian Textile Manufacturing Co.	do	Warsaw.
A. G. Borst Cloth Mills	Petrokoff	Zgherzh.
August Schmeltzer Cotton Mill.	do	Myshkoff.
Heinzel & Kuntzer Manufacturing Co.	do	Lodz.
Henrich Birnbaum Spinning Mill	do	Do.
Herman Schlee Hat Manufacturing Co.	do	Do.
I. K. Poznansky Cotton Mills	do	Do.
Julius Heinzel Manufacturing Co.	do	Do.
Cosmo Prokhoroff & Sons Manufacturing Co.	Iver and Moscow.	Moscow.
Iver Cotton Manufacturing Co.	Iver	Do.
M. P. Ryabooshinsky & Son Manufacturing Co.	do	Do.

Textile mills in Russia—Continued.

Mill.	Location.	Head office address.
"Alexei Khloodoff" Yartseff Cotton Mills	Smolensk	Moscow.
Rostoff Flax Mills	Yaroslavl	Rostoff.
Volga Spinning Mill	do	Moscow.
Textile Riga Co., weaving, dyeing, etc.	Livonia	Riga.
Vasil Baryshnikoff Sons Stodoly Cloth Mills	Tchernigoff	Stodoly.
Aktchurin's Staro-Timoshkimo Cloth Mills	Simbrisk	Staro-Timoshkino.
Timerbulat Aktchurin Industrial and Trading Co.	do	Gooryefka.
Alafozoff Nizhni-Tiortsky Cloth Mills	Via	St. Petersburg.
"K. & E. Ungern-Sternberg" Dago-Hutel Cloth Factory.	Esthonia	Isle of Dago.
"Ishmuhammed Deberbeyeoff & Bros."	Saratoff	Verkhosim.
The Anglo-Russian Cotton Factories, Ltd., including Petrofsky and Spassky Cotton Spinning and Weaving Co., and the Schlüsselberg Calico Printing Co.	do	4 St. Helen's place, London, E. C.
The Imperial Russian Cotton and Jute Factory, Ltd., formerly the Cotton Spinning and Weaving Co. of South Russia.	Odessa	19 Cullum street, London, E. C.

TRADE OPENINGS IN FOREIGN COUNTRIES.

(From United States Consul-General Guenther, Frankfort, Germany.)

ELECTRIC-MOTOR STREET CARS.

A press dispatch says that the municipality of Vienna will shortly invite bids for the delivery of 100 electric-motor street cars and 100 trailer cars, the cost of which is estimated at \$500,000. If Americans should be able to secure the contract for these cars it would prove a prominent advertisement and no doubt procure many orders from other cities of the Old World. Manufacturers should have able representatives in European countries to look out for orders, and be fully prepared to submit bids and conclude contracts.

RAILWAYS AND ELECTRIC TRAMWAYS.

British India.—The government of British India has granted permits for the construction of the Pegu-Syriam railroad, 67 miles, and the Maulmain-Amherst railroad, 46 miles. These roads will be opened by the Burmah Railway Company, whose head office is at 76 Old Broad street, London.

The agency of the Bengal-Nagpur Railway Company, 132 Old Broad street, London, has received the contract for the preliminary work of the new railroad line from Purulia to Ranchi.

Several Indian railroad companies are about to make contracts for railroad materials and needed supplies. For further information apply to Director-General of Stores, India Office, Whitehall, London, S. W.; Secretary East Indian Railway Company, Nichols lane, London, E. C.; Bombay, Baroda and Central Indian Railway, Gloucester House, Bishopsgate street, London, E. C.; South Indian Railway Company, 55 Gracechurch street, London, E. C.

British South Africa.—C. Francis Paar, of No. 4 Bartholomew lane, London, has been authorized by the government of Natal to build an electric tramway from Durban to Prospect Hall estate, and to supply the adjoining district with electric power.

Canary Islands.—The dirección general de obras públicas, in Madrid, Spain, has granted a concession for constructing an electric tramway at Las Palmas, Canary Islands.

Netherlands.—A steam railroad is to be built from Hoogeveen to Nieuw Amsterdam; also a new line by the Noordooster Lokaal Spoorweg Company in Assen.

Switzerland.—W. Cuenod & Co., of Clarens, have received a permit to construct an electric railroad from that town to Blonay. E. Colombi, of Bellinzona, has applied for a permit to build an electric railway between that town and Magadino and Gordola.

ELECTRIC PLANTS AND LIGHTS.

British India.—A British company, the Punjab Power Association, plans the construction of extensive electric plants for furnishing power and light to Lahore, Amritsar, and other cities and towns of the Punjab.

Dutch India.—A large number of concessions have been granted by the governmental authorities in the Dutch colonies of the East Indies for the installation of electric plants for lighting towns in Java and Sumatra.

SEWERAGE, WATERWORKS, AND BRIDGES.

Chile.—The Chilean Government has just negotiated a loan of \$7,289,000 in London, the proceeds of which are to be used for contemplated improvements (sewerage, waterworks, etc.) in the capital, Santiago.

Italy.—Bids will be received by the municipality of Syracuse for furnishing requisite iron pipes and other iron materials for the new waterworks; estimated cost of requisites, \$73,772.

Spain.—The ministry of public works at Madrid invites bids for the construction of a bridge over the Jarama; estimated cost, \$82,200.

FLOATING DOCKS, MARKET HALLS, AND IRON STEAMSHIPS.

England.—A floating dock is to be constructed at Harwich, to cost \$12,000,000.

Germany.—The municipality of Breslau intends to erect two market halls at an expense of about \$700,000.

Russia.—The wooden freight steamers running on the river Volga are to be gradually replaced by iron steamers. There are about 1,500 of them, most of which carry petroleum.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, January 24, 1905.

PROPOSED RAILROAD IN CHEKIANG.

(From United States Consul Anderson, Hangchau, China.)

It is announced to-day that work will be commenced within the next two weeks upon a railroad from Hangchau customs settlement, the foreign concession in Hangchau, to Liuhôta, an ancient monument on the opposite side of the city, on the banks of the Chientang River. The railroad, which will be about 10 miles in length, is to be built under the authority of the English syndicate which has a concession for the construction of a railroad from Shanghai to Hangchau, and thence to Ningpo, on the seacoast, and is to be a part of their system. It is important chiefly in the ultimate effect it may have upon the construction of the railroad of which it is said to be a part. As I have indicated heretofore, there has been considerable complaint by Chinese officials that the concession given this English syndicate four years ago has not been used, although it has been keeping other investors out of the field. This action will naturally make it binding. Whether it actually means the construction of the railroad from Shanghai to Hangchau and thence to Ningpo is doubtful, although representatives of the syndicate say that it has that meaning.

Whether the proposed short road will pay is also doubtful, but there appears to be no reason why it should not, except that its usefulness is confined to peculiarly local service. Freight from without Hangchau and passengers from Shanghai and all points north of the Chientang River come by way of the "settlement," and the steam launches stop there. The result is that there is a vast amount of traffic in small boats from the "settlement" to within the walled city, about 6 miles away. The railroad ought to take the most of this business, and ought to secure good business in the transportation of passengers to and from the customs station and the steam-launch offices. In short, the proposed road will form a link connecting the Imperial Grand Canal and its terminus and the city proper. There is plenty of business between the two points, but whether it will go by the railroad or remain with the small canals is a problem.

There is a spirit of progress in Hangchau which is important from a trade standpoint. A road is being constructed from the customs settlement to the city which will enable the trip to be made in about two-thirds the time now occupied, and a second road suitable for carriages and wagons is promised within a few months. In a city in which a carriage could not go a quarter of a mile in a single street this innovation is to be noted as one of importance. The most important feature is that the Chinese have come to appreciate the need of better transportation facilities. With good railroad connections with the coast

Hangchau will do an immense outside business. It is doing well now, and the surface of its trade possibilities has scarcely yet been scratched.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 2, 1905.*

. VIENNA CONSULAR ACADEMY.

(*From United States Commercial Agent Harris, Elbenstock, Germany.*)

The Vienna Consular Academy is an institution founded for the sole purpose of educating young men for the consular service of Austria-Hungary. The pupils receive the same general instruction, the exception being in languages which are divided into Oriental and Occidental departments. Pupils who desire to become consuls in the near east are placed in the Oriental department, where they receive a thorough training in the Turkish language principally, and in the Arabian and Persian tongues secondarily. Instruction has been given in the Chinese language also during the last two years.

The conditions of admission are as follows: (a) Austrian or Hungarian citizenship; (b) completion of the prescribed course of study in an Austrian or Hungarian gymnasium; (c) knowledge of the French and German languages; (d) candidates coming from Hungary must have a good knowledge of the Hungarian language; (e) knowledge of any other language by the candidate should be noted in his application. The entrance examinations cover the following subjects:

Oral examination.—(1) General history, from the treaty of Westphalia to the Congress of Berlin in 1878, with special attention to the history of Austria-Hungary; (2) the French language; (3) for Hungarian subjects, the Hungarian language.

Written examination.—(1) A thesis in the German language upon some given subject; (2) a translation exercise from German into French; (3) the same from French into German.

The decision as to candidates to be admitted rests with the Austro-Hungarian foreign office.

Upon entrance the pupil is placed in the department best suited to the needs of the service and his inclinations. The course of study covers a period of five years. The subjects taught in the curriculum are as follows: Political economy, commercial politics, science of finance, materials of commerce, commercial geography, elements of jurisprudence, constitutional law, international law, history of diplomacy, consular service, military geography, French, English, Italian, Hungarian, Turkish, Arabian, Persian, German, Russian, and Chinese. Thorough training is also given in physical gymnastics, dancing, fencing, riding, and swimming.

The Government has provided for twenty-five State stipends, which permit as many students to attend the academy at Government expense for a period of five years. Ten of these stipends amount to \$696 each and fifteen to \$536 each per annum. It is possible for a student in the Oriental department, who enjoys a stipend of \$536, to be advanced to \$696 at the beginning of the second school year. This is also possible at the beginning of the fourth year for those pupils who take up the study of the Chinese language during the last two years. Students who complete the five-year course of study may be appointed at once into the active service as consular attachés. Inasmuch as they are greatly favored by the foreign office, their appointment to minor places in the service is practically a certainty.

That the academy is accomplishing the mission for which it was founded is supported by the fact that only a few weeks ago a new building was dedicated and set apart for its exclusive use.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *January 17, 1905.*

PROPOSED STRASSBURG CANAL.

(From United States Consul Brittain, Kehl, Germany.)

The enterprise of providing a water course from the city of Strassburg to a point on the Rhine where boats may readily navigate the entire year is assuming more definite form. Last week the Strassburg bankers submitted to the chamber of commerce the proposition that they will raise the sum of 20,000,000 marks (\$4,760,000), providing the city of Strassburg will donate 2,000,000 marks (\$476,000), and the governments of Alsace-Lorraine and Bavaria 10,000,000 marks (\$2,380,000), a total of 32,000,000 marks (\$7,616,000).

The idea of the bankers is to construct a canal paralleling the Rhine, from Strassburg to Sondernheim, in Rhenish Bavaria (Rhine Palatinate), a distance of about 50 miles, where the canal would enter the Rhine, and beyond which point navigation is possible the entire season. If the proposition is accepted, the government will be asked to construct the canal and lease it to a company for a period of ninety-nine years, and also to guarantee the par value of the bonds which may be issued. Some years ago a plan for deepening the channel of the Rhine was seriously considered, in which the Grand Duchy of Baden was also interested, but some claimed that the shifting sand banks in the bed of the river would make the channel very expensive to maintain.

Within the past few years extensive docks have been constructed both on the Baden and Alsace-Lorraine sides of the Rhine, but owing to the low stage of water and swiftness of the current navigation from

Strassburg is practically suspended during the greater part of each year. The tonnage which arrived at Strassburg by the Rhine amounted to 425,364 tons in 1904, three-fourths of which came up the river during the months of April, May, June, and July, during the stage of high water. Navigation is not carried on above Strassburg, owing to the swiftness of the current.

JOSEPH I. BRITAIN, *Consul*.

KEHL, GERMANY, *January 16, 1905.*

CANADIAN-MEXICAN TRADE.

(*From United States Consul-General Holloway, Halifax, Nova Scotia.*)

Referring to the proposed subsidized steamship line between Canada and Mexico, the Canadian Manufacturing and Industrial World, after reviewing the meagerness of the trade between the countries, has the following:

When the proposed schemes are carried out the United States will have to compete with Canada for the trade of Mexico. The Dominion is actively interested in the development of the Mexican Republic, and a Canadian Club was established in its capital a year ago. Its members are business men, who are now sending representatives into the various states of Mexico and into Canada, with a view of establishing reciprocal relations, commercial and social, between the two countries. One of the movements is to establish a direct steamship line from St. John, New Brunswick, and Halifax, Nova Scotia, to Vera Cruz. Mexico will take cereals, coal, pig iron, lumber, furniture, agricultural implements, wagons, fruits, hams and bacon, canned goods, salt fish, and general merchandise from Canada, and will send to Canada raw sugar, coffee, mahogany, dyewoods, fruit, hides, etc.

The establishment of the steamship line between St. John and Vera Cruz, it is expected, will divert to Mexico a large number of wealthy Canadians, who have heretofore made Florida their winter resort. Prominent Mexicans are being sent by their Government and by the Canadian Club in the capital to the principal cities of Canada, supplied with the most alluring descriptions and data showing the advantages of Mexico's climate and other attractions. The people who will be induced to visit Mexico represent the trade and finance of the Dominion. When they reach Mexico the doors of the Republic will be open to them. When it is understood that both the Mexican and Canadian Governments are behind all these efforts, the importance and scope of the programme will be readily realized.

W. R. HOLLOWAY, *Consul-General*.

HALIFAX, NOVA SCOTIA, *February 8, 1905.*

WOOD OIL AND WOOD-OIL TREE OF CHINA.

(From United States Consul-General Wilcox, Hankau, China.)

INQUIRIES FROM THE UNITED STATES.

The oil from the nuts of the tung shu tree (best known to foreigners as wood oil or nut oil) has within the past six years become one of the chief articles of export from Hankau to the United States. Reference was made to its value and uses in the annual report of this consulate, published in the Commercial Relations of the United States, 1899, and since then from all parts of the United States; also from Canada, Africa, and Europe, inquiries have been received as to where the oil can be procured, how the trees can be grown, etc. I have endeavored to collect information on the subject by sending out a list of questions to Americans in the different provinces in central China. They have kindly given me the facts they could obtain, and I have also received valuable information from Rev. J. S. Adams, from native merchants, and from exporters.

THE WOOD-OIL TREE.

The tung shu, or wood oil tree has been styled, and worthily so, "the national tree of China," because of its stately appearance, with its green, smooth bark and spreading branches, which make it one of the finest of shade trees. It has many local names throughout the provinces in which it grows, but it is agreed generally that it belongs to the family of Euphorbiacæ. Doctor Legge calls it *Elæococcoa dryandra*; Doctor Williams, in his dictionary, speaks of it as *Elæococcoa sinensis*; Henry calls it the *Paulownia imperialis*; Thunberg and Bretschneider call it the *Dryandra cordata*; and Doctor Barchet says the oil is from the seeds of the *Elæococcoa* and *Jatropha* trees.

HABITAT.

The tung shu flourishes more or less in every province in the Yangste Valley. It extends from latitude 25° to 34° north, and from the coast to near the western part of the province of Szechuen, including an area of over 750,000 square miles, or over 600 miles north and south, and 1,250 miles east and west. While it grows as far north as 34°, and perhaps farther, the trees growing in the places that I have heard from in these higher latitudes are sheltered by mountain ranges on the north, so that it is hardly probable that the tung shu would bear nuts farther north in the United States than northern Georgia or Alabama unless under favorable conditions. Some say the tree will flourish in a climate 20° above zero and will not be injured after the first year, but it will not bear nuts.

Seeds of the wood-oil tree have been sent to central California and have grown well, but others planted at South Bend, Ind., have not sprouted, possibly due to defective seed. The tree might grow in Indiana, but would probably fail to produce nuts. Two hundred pounds of fresh seed are contracted for and will be sent from here in February to the Department of Agriculture. It is hoped that the experience gained in planting them in various parts of the United States will assist very materially in deciding what localities are best adapted for the growth of the tree. No degree of heat in this climate injures it. It is deciduous, shedding in October and November its leaves, which are very large and cordate in shape. The tree blossoms in March, the flowers being red, white, or purple.

VARIETIES.

There are several varieties of wood-oil trees in China, but the tung shu appears to be the only one known in many localities, and from the best information I can obtain most of the wood oil exported is produced from its seeds. Other varieties are: Tung yio; the tsi tree, yielding oil from wood, bark, and nut; the muh oil tree, flourishing best along streams; the chow oz shoo, limited to good soil, and having a white flower; hai tung, or sea oil, a spinous variety, the bark of which is used for medicine; ts'ing tung, or green wood-oil tree; peh tung, or white wood-oil tree; chi tung, or red wood-oil tree; wu tung, a local name; yin tung, or oil tree, and pai yu. Mr. Kilen informs me there are five varieties of wood-oil tree, namely, mu-tsi shu, trou-tsi shu, tung-tai shu, whang-min-si shu, and tong-tsi shu, in the north-western portion of this province (Hupeh). The oil of the tong-tsi shu is used in paints and is burned in candles and lamps. The color of the flowers and not of the oil is referred to in the names given. As nearly every locality uses different terms for the varieties, it is difficult to learn anything definite regarding their properties from the natives.

HOW GROWN.

The most frequent way of producing trees is to plant the seed in boxes or garden beds. When the shoots are about a foot high they are transplanted, as a rule, in clayey or gravelly soil on some hillside, along the edges of a road, in cultivated land or pasture, or as shade trees on waste land. At first when transplanted the roots are kept moist until they have well started to grow, after which little attention is demanded. The tree is never budded or grafted. One of my informants says the sprout is grown by pulling or cutting off the tree a twig, the large end of which is curled up and set in any kind of sandy or clayey soil and surrounded by wheat grains watered plentifully and let grow for a year. The shoot is then cut off above the

ground and a large sprout springs out and grows very rapidly. If kept constantly moist at the roots and well pruned, it will grow 10 feet in one season, and in five years will have grown to be a handsome shade tree. When not watered it grows more slowly. Other crops are not planted between rows of the trees. After beginning to bear they appear to stand the drought of the hot summers without injury.

PERIOD OF BEARING.

The age when the tree begins to bear depends to a considerable extent on the richness of the soil and the amount of moisture it receives the first few years after planting. In some localities it produces fruit in three years, usually from the fourth to the sixth year. The tree continues to bear for about ten years, and if properly attended to and pruned would no doubt retain its productive powers for a longer period.

METHOD OF EXTRACTING OIL.

On the tree the fruit, about the size of a small orange, resembles large shellbark hickory nuts, and when ripe the hulls, which have five segments, burst open, especially if there is a frost, and one or more of the seeds fall out. The husk has three fibrous partitions, each containing a seed which resembles somewhat the triangular Brazil nut in shape and color, but is much smaller. The shell of the seed is slightly thinner and the meat is similar to that of the Brazil nut. When gathered and dried the nuts are put in large iron pans, called kwoo, about 2 feet in diameter, and are stirred about over a good fire until parched. This causes the husks to open and the seeds are easily extracted, after which they are ground into a fine meal by hand or by rollers. As I am informed, the usual way of doing this is as follows: The nuts are placed in a stone trough, built in sections, several feet in diameter, and are ground by a heavy stone roller, turned by a buffalo, cow, or ass. The meal is then collected and put into a press, somewhat similar to the old-fashioned cider press, wedges being driven in to increase the power and heavy stones piled on top to make the press more effective.

The oil is collected in vessels, is heated (if the weather is cold it thickens or congeals), and after being freed from sediment by straining through coarse grass cloth is ready for market. Steaming the meal is practiced by the natives in order to extract the liquid more easily. The oil is of a light straw color; it becomes dark brown if boiled, and if the process is continued becomes black and as thick as New Orleans molasses. Obtaining the oil could be greatly facilitated by the use of proper machinery. The commodity is brought from the interior in plaited baskets, which are lined with putty and varnished paper, and have large wide mouths and four loops plaited in the bam-

boo. The oil is extremely poisonous when fresh. A simple native remedy for persons poisoned by it is to boil a quantity of pine shavings in water and bathe the poisoned parts repeatedly. This gives immediate relief and a rapid cure. Wood-oil poisoning is worthy of special study.

USE OF THE REFUSE.

The refuse of the nut is used as a fertilizer, or after the oil is extracted the meal is burned to a fine ash or soot, which is mixed with wood oil to make a paste or chuman, used as a kind of cement for calking native boats, especially the decks; it is also commonly used in preparing floors for the first coat of paint. So-called Chinese or India ink is made from the soot. In the west of China (Szechuen, Kueichau, Yunnan) the people spin thread from the fiber of the tung tree and make a kind of fabric that resembles woolen cloth. It is very common in central China and is also well known in Japan. There is also a kind of bastard wood-oil tree from which strings can be made, probably *Sterculia plantanifolia* (Henry).

WOOD-OIL TREES USED AS LUMBER.

Wood-oil trees average only about 20 feet in height and 7 to 10 inches in diameter, though some are said to reach a diameter of 2 feet. The scarcity of timber in China necessitates their use, the lumber being handsawed. The latter is light, soft, and smooth-grained when first cut, but when seasoned is hard and durable. The wood is white, impervious to moisture, and is not liable to warp or crack, even when exposed to intense heat. It is used in the manufacture of musical instruments, trunks, oven covers, fine boxes, etc., and also for the framework of small Chinese houses. It is said that insects avoid this wood, and that for that reason it is very valuable in China, where white ants and other insects destroy woodwork often in a very short time.

KINDS AND USES OF THE OIL, AND YIELD PER TREE.

The light straw-colored or light-yellow oil is the only kind that has been exported from this market to any extent; but the two other grades, the brownish-colored oil and the black oil, are used quite extensively in some localities here. The oil is used in polishing the woodwork on native boats of all kinds, as they are not painted. It is a preservative, giving the wood a bright, clean, light-yellow appearance and making it impervious to moisture. The oil mixed with quicklime makes a very good glaziers' putty, used extensively by the natives. It is used as a dressing for leather, and in lamps, but not nearly so much as the peanut or tea oil. It is also used as a varnish for fine furniture and for soap making, and is mixed with color for various kinds of painting.

The oil is finding a ready market in the United States, and no doubt experience will prove it to be useful in many other lines than those mentioned.

The yield of nuts varies from 20 to 50 pounds to the tree. The oil yield of the nut is about 40 per cent. This amount is given in a number of reports from widely separated districts.

THE TUI IN TREE.

I received from Rev. George J. Marshal, of Kanchan, Kiangsi Province, a few days since, a few seeds of a wood-oil tree called in that locality the tui in. He states that the natives consider the seed of this tree the best for oil making and thinks it could be profitably raised in the United States on waste lands. The seeds of this tree are about two-fifths as large as those of the tung shu tree.

MARKET PRICE OF THE OIL.

The price of wood oil per picul (133½ pounds) in this market varies somewhat, due to the fluctuation in silver and also to supply and demand. The past year it has ranged from 7.75 to 8 taels (about 3½ to 4 cents) per pound.

HOW EXPORTED.

The oil is shipped in casks or barrels from Hankau to Shanghai, where it is transhipped on ocean steamers, via Suez, to the United States. As very few casks or barrels are made in China, there has been a great deal of leakage in shipping in old second-hand barrels imported into China containing other merchandise. During the past three years some parties have imported from the United States shooks and machinery for setting them up into casks. One or two other firms in this district have started barrel or cask factories, but so far the output has been small. No doubt time will remedy this want.

FREIGHT RATES.

The rate of freight at present is 47s. 6d. (\$11.56) per ton (2,240 pounds), gross weight, to New York. The tare amounts to about one-seventh of the gross weight. There is a rebate of 5 per cent per conference steamers six months hence, and an additional 5 per cent after a further six months, provided the shipper has not shipped by any steamer outside the conference in the meantime. All the New York via Suez steamers now are included in the conference.

L. S. WILCOX, *Consul-General*.

HANKAU, CHINA, *December 28, 1904.*

CATALOGUES WANTED AT MALTA.

(From United States Consul Grout, Valetta, Malta.)

Inquiries have been made at this consulate recently by merchants of this city for catalogues of the following goods:

Tools and house hardware.—Extensive building and reconstruction work is in progress at the present time and builders are becoming dissatisfied with the crude and unsatisfactory materials they have been using for years. Each house erected or reconstructed shows an improvement over previous ones. Carpenter's tools and house hardware now in use admit of much improvement. I believe there is not an up-to-date door lock or knob to be found in these islands, while the most primitive hinges are used.

Furniture.—A gentleman here with capital is about to open a business in which he intends to include several lines of American goods, among others furniture, preferably the kind that can be shipped "knocked down," such as chamber, library, and, as far as possible, drawing-room furniture.

Stained glass.—In these islands are many little hamlets and villages, in each of which is to be found one or more churches—often more than the size of the place would seem to justify. Owing to the great demand for labor at present nearly everybody is at work earning money, which is freely spent. For this reason much attention is being paid to embellishment of the churches, and there is great rivalry in the matter of stained-glass windows.

Confectionery.—Although the Maltese are great lovers of confectionery, there are very few places in Malta where a really good article is to be found. Most of the candy sold here is of the Italian, hard, painted variety. A large café is to be opened here shortly, and the proprietor intends including a large confectionery department. I believe there is a good chance for American exporters in this line to secure business here.

Stationer's supplies.—Although there are many stationery establishments here, about six control the bulk of the trade. Good note paper is difficult to find, and local dealers are always looking out for novelties. For several weeks before Christmas and New Years, thousands of cards of appropriate designs are sold here. Malta ought to prove a good market for these goods.

American merchants and manufacturers interested in the commodities mentioned would do well to send me, not one catalogue, but several, also export price lists giving terms f. o. b. New York. I will place them, upon receipt, in the hands of inquirers desiring them. This method will be better than that of past years, in which I gave local addresses of merchants, European houses often reaping the advantage which our own merchants failed to secure by inattention to such suggestions.

JOHN H. GROUT, *Consul.*

VALETTA, MALTA, January 28, 1905.

COMMERCE OF EGYPT AND SHARE OF THE UNITED STATES THEREIN.

(From United States Consul-General Morgan, Cairo, Egypt.)

In answer to Department circular of August 31, 1904, on the subject of the trade of Egypt and the share of the United States therein, I submit the following report:

Although progressing by leaps and bounds Egypt is still in a state of transition, or maybe it would be more correct to say, is just emerging from the state of transition it has been passing through during the last twenty years, which renders it difficult to secure the statistical information which the Department desires. In some years abnormal quantities of machinery, cement, timber, etc., have been imported for such works as the completion of the Delta Barrage, enlargement of the Suez Canal, the construction of the Sudan railways, the reservoirs, and similar huge undertakings, so that comparative statements of imports and exports for former years would have to carry with them long explanations to account for the increases and decreases in the quantities and values of many imports; and as a consequence of "operations" and strikes there have been great fluctuations in the prices of coal, iron and steel, cotton, etc. For other reasons, also, the statistics of past years might lead to wrong conclusions, and to give long explanations would be tantamount to converting an intended trade report into a semihistorical pamphlet.

Under these circumstances it would be well to look upon Egypt as a new country, whose purchasing power is increasing year by year, and whose inhabitants require the importation of almost every article of manufactured goods necessary to modern life and the changed conditions of the country. It is to the future and not to the past that our manufacturers must turn their attention and study the new markets. The only old market is that for cotton goods, still the principal one, but many others are springing up around it, and they must be supplied from the outside.

TAXATION OF FOREIGNERS.

In virtue of the capitulations^a the subjects of other powers resident in Egypt are, with the exception of the land and house tax, exempt from every form of direct taxation, and having said this, all questions of the

^aThe capitulations are a series of privileges extended by the Sultans of Turkey in the fifteenth and sixteenth centuries to western merchants to enable them to settle down and trade in Turkish territory. They were granted as a favor; they are now claimed as a right. The principal privileges are relief from all forms of direct taxation and the right of being tried by the laws of one's own country at one's own consulate for offenses.

circular regarding taxes and licenses are answered. In a word, with the two exceptions named, there are no taxes so far as foreigners are concerned, and the natives themselves are now almost in the same happy position.

NO DISCRIMINATING TRADE LAWS.

As Egypt possesses neither a navy nor a mercantile marine, the whole of her trade, both inward and outward, is carried in foreign bottoms. It is true the Khedivial Mail Steamship Company, formerly under State administration, continues the mail and passenger service to Greek and Turkish ports, but the concern is now an English limited liability company, and Egyptian only in name. There are no laws of a discriminating nature affecting American vessels or American products, raw or manufactured, or general trade. The customs dues are levied in all categories on an 8 per cent ad valorem basis (tobacco excepted) plus 1 per cent wharfage dues. Such quarantine measures as are in force are the work of the International Quarantine Commission.

PATENTS AND TRADE-MARKS.

There is no local trade-marks act or any law requiring goods to be stamped or marked with the country of origin, but those desiring to protect their patents and trade-marks may do so by registration in the international courts of law (mixed tribunals), and I strongly recommend American manufacturers and importers to avail themselves of the trade protection thus afforded them.

PASSPORTS.

People coming to Egypt on business should in all cases bring passports with them as a means of identification at the consulate, but the worries and annoyances of the passport system experienced in some other countries are not met with in Egypt.

INTERNAL COMMUNICATIONS.

River.—Navigation on the Nile and canals is now free, only a small annual registration fee for boats being charged.

Railways.—Exclusive of sidings there are 1,700 miles of rails (double and single) belonging to the State, and 800 miles of agricultural light railways owned by private companies. Passengers on the State railways numbered 15,000,000 last year, and goods carried amounted to 3,000,000 tons.

Telegraphs.—The lines belong to the State and have a total length of 2,600 miles, with 11,000 miles of wire. The tariff is 10 cents for the

first eight words and 1 cent for each two succeeding words. The number of telegrams (excluding State messages) sent per annum is 1,600,000.

Cable service.—The Eastern Telegraph Company has land lines across Egypt connecting with the cables to the east and west. Cable messages to New York cost $53\frac{1}{2}$ cents per word and the time of transmission is two and one-half hours. Egyptian time is seven hours in advance of New York time.

Telephones.—There are thirty-eight circuits in Egypt. Trunk lines connect Alexandria and Cairo, and connections with other larger towns are in contemplation.

Post-office.—The Egyptian post-office renders all the services which exist in the post-offices of other countries forming the Postal Union. The towns of Egypt have 343 post-offices; there are 252 traveling offices, and 417 localities have rural posts. The tariff on letters for delivery in the towns of postage is $1\frac{1}{2}$ cents per 30 grams (463 grains), and for delivery in other towns $2\frac{1}{2}$ cents per 30 grams. Foreign postage costs 5 cents per 15 grams (Postal Union rate). Only 3 per cent of the total correspondence is with the United States.

COMMERCE AND INDUSTRIES.

Egypt is an agricultural country, pure and simple. If we except the new industry in exporting oil cake, there are no local manufactures supplying a foreign market. Manufactories have very recently been started—spinning, brewing, cement, soap, and furniture—but these supply a local demand, and they have not to any appreciable extent affected the import trade in similar articles. In some instances, I am informed, they have created a demand which did not formerly exist; or, to put it in other words, the population is indulging in the use of a better article or a luxury because it has been brought to their doors.

There are neither coal nor other mineral deposits in the country, so far as is at present known, though exploration work on a large scale is being carried on. There are no forests in Egypt, and it is but recently that plantations of economic timbers have been started. I do not forget the existence of large date-palm plantations, but the timber of the date palm only becomes available for indifferent building purposes when the tree has ceased to give fruit. Almost everything, apart from agricultural produce required by the inhabitants, has to be imported, and even agricultural produce is hardly an exception, for some of the cereal and vegetable crops must be supplemented by imports.

EXPORTS FROM EGYPT IN 1903.

The following statement shows the value of the various commodities exported from Egypt in 1903, and the value of the direct exports to the United States:

Value of general exports from Egypt and direct exports to the United States in 1903.

Commodity.	Total exports.	Value of direct exports to the United States.
Animals and animal food products ^a	\$690,651	.....
Hides and skins.....	408,303	\$1,561
Other animal products.....	351,942	22
Cereals and vegetables ^b	3,231,738	14,947
Cotton seed and oil cake.....	8,456,979	54
Cane sugar, molasses, etc.....	1,700,392	\$39,685
Gum arabic.....	952,615	108,511
Cotton seed and oil.....	164,615	.....
Other oils and spirits.....	75,134	74
Egyptian furniture, matting, glassware, etc.....	214,032	722
Henna and other coloring mediums.....	119,126	.....
Chemical products.....	81,560	11,263
Cotton.....	77,490,492	4,046,256
Flax and other fibers.....	406,315	22
Brass and metal ware.....	30,152	99
Cigarettes.....	2,092,372	24,556
All other articles.....	127,580	4,315
Total.....	96,583,892	4,602,606

^a In which are included eggs (\$588,217) and quail (migration from Europe), \$49,436, leaving only \$42,998 for all other animals and animal products.

^b The principal cereals and vegetables exported were: Rice \$583,274, of a particular quality which commands a high price in Turkey and Italy; onions, \$944,113; beans, \$741,450. Barley (for brewing purposes), lentils, tomatoes, etc., were minor exports.

It will be noted that out of a total export, valued at \$96,583,892, cotton represents \$77,490,492, and that, with the exception of about \$300,000, the exports are agricultural products.

IMPORTS.

The following statement, as given in Egyptian official returns, shows the value of the general imports into Egypt and the value of the direct imports from the United States in 1903:

Value of general imports into Egypt and the direct imports from the United States in 1903.

Commodity.	Total imports.	Imports from the United States.
ANIMALS AND THEIR PRODUCTS.		
Animals.....	\$2,221,334	\$2,422
Hides and skins.....	559,285	23,736
Flesh meat, salted, smoked, etc.....	279,280	7,900
Fish, salted, smoked, dried.....	320,306	25
Butter, fresh and salted.....	395,440	.....
Cheese.....	588,217	.....
Other animal products.....	60,305	.....
Total animals and their products.....	4,424,167	34,515
Boots and shoes.....	527,912	7,900
Leather goods.....	269,393	6,700
Grease of all kinds.....	136,426	571
Candles.....	223,379	.....

^a Fourteen head, including horses,

Value of general imports into Egypt and the direct imports from the United States in 1903—
Continued.

Commodity.	Total imports.	Imports from the United States.
BREADSTUFFS, FRUITS, AND VEGETABLES.		
Wheat	\$204, 146	
Maize	82, 548	\$57, 388
Barley	307, 454	
Rice	1, 558, 585	
Sesame	508, 936	
Potatoes	232, 821	
Flour, wheat, and maize	2, 635, 028	51, 875
Flour, sundries	240, 230	
Bread, desiccated	85, 020	
Fruits, fresh and dried	1, 861, 534	427
Vegetables, dried and preserved	238, 064	1, 967
Sundries	318, 386	119
Total breadstuffs, etc	8, 257, 252	111, 726
Sugar, refined	857, 378	
Spices, etc	236, 875	
Coffee	1, 000, 178	566, 848
Tea	97, 621	
Sweetmeats and preserves in sugar and honey	248, 632	850
Wines	767, 504	450
Beer	394, 681	2, 600
Liqueurs and pure alcohol	696, 844	1, 665
Olive oil	484, 700	
Seed oils	575, 533	64, 150
Petroleum	1, 057, 573	23, 751
Paper and cardboard	339, 460	538
Timber for building	4, 881, 524	86, 255
Firewood	178, 818	
Furniture	586, 215	2, 699
Cane and wicker goods	175, 007	
Charcoal	539, 385	
Coal	4, 313, 967	
Carriages, carts, etc	167, 330	8, 685
Wooden ware and implements	145, 671	123
Stone, marble, cement, and glassware	1, 308, 650	1, 743
Indigo and other colorants	1, 346, 809	1, 013
Chemicals, medicines, perfumes, etc	2, 257, 379	9, 969
TEXTILES AND YARNS.		
Cotton and linen yarns, silk, wool, etc	2, 361, 269	
Cotton (Manchester) goods	11, 681, 228	692
Woolen goods	1, 645, 423	
Silks	989, 590	
Mercerized goods	879, 247	
Sacks	843, 500	
Blankets	671, 635	
Manufactured linen goods	1, 250, 435	
Hosiery, etc	631, 532	206
Clothing	1, 325, 075	831
Other textile fabrics	2, 279, 386	61, 937
Total textiles and yarns	24, 513, 320	3, 168
METALS, AND MANUFACTURES OF.		
Iron and steel	4, 941, 250	11, 324
Iron utensils and implements	212, 821	7, 221
Copper and brass	1, 248, 760	3, 109
Lead and tin	212, 173	1, 591
Machinery	2, 938, 345	92, 674
Railway and tram wagons	744, 687	434
Gold and silver manufactures	506, 875	
Sundries	283, 328	1, 675
Total metals and manufactures of	11, 088, 239	118, 028
Tobacco and cigars	2, 996, 015	5, 986
All other articles:		
Manufactures	6, 963, 943	22, 707
Articles not manufactured	664, 208	99, 338
Total imports	82, 811, 018	1, 181, 318

^a Cotton-seed oil.

^b Sailcloth, chiefly.

DIRECT AND INDIRECT TRADE WITH THE UNITED STATES.

It thus appears that the exports from Egypt to the United States in 1903 were valued at \$4,602,605, while the table of imports shows that goods to the value of only \$1,181,318 were received in return, leaving a balance of trade against the United States of \$3,421,287, against which there is no record, either last year or in previous years, of any specie having been received from the United States in settlement of the account. The balance of trade always has been—and until direct trade has been established always will be—against the United States, as far as statistics go. But the figures given do not represent the actual commercial intercourse of the two countries. The non-existence of an Egyptian mercantile marine, and the bulk of intercourse with the United States being indirect, accounts for the disparity.

During the twenty years from 1884 to 1903, Egypt exported goods to the value of \$1,333,302,463, of which \$48,269,576 are entered as being consigned to the United States. During the same period the imports were valued at \$1,010,832,467, of which only \$12,487,407 are credited as coming from the United States. As already stated, the figures given do not represent the actual commercial intercourse between Egypt and the United States, but whatever that actual intercourse may be, there is, as a result of the inquiries I have made, no question in my mind that the United States is not enjoying anything like the proportion of the import trade to which it is entitled.

Except on rare occasions when a vessel of the United States Navy visits Egyptian waters, our flag is never seen among the 1,500 steamers and 2,000 sailing vessels clearing from Alexandria annually; and of the 3,791 vessels passing through the Suez Canal in 1903, with a net canal tonnage of 12,000,000 tons, the American flag was carried on only 12 (possibly Government colliers), with a tonnage of 23,612. As these 12 steamers passed through the canal, it follows that they were not charged with cargo for Egypt, and as no vessel flying the American flag came into an Egyptian port with cargo, the natural inference would be that there was no commercial intercourse whatever between the two countries; but I have already pointed out the fallacy of this. That any goods at all are entered as coming from the United States is probably due to shippers consigning goods in their own names to one of the local banks, the shipping documents being transferred to the actual consignee on his accepting the drafts which accompany them. For various reasons orders for American manufactures and goods are by preference sent to agents in England and on the Continent, and these goods being transshipped at Liverpool, London, Hull, Antwerp, Marseille, etc., and loaded on other vessels from these ports trading to Egypt, are credited to the countries from which they are last shipped. California produce shipped across the Pacific and landed at some east

ern port, to be picked up by any vessel proceeding through the Suez Canal, appears in the official returns as coming from British possessions in the Far East.

HOW TO INCREASE AMERICAN TRADE IN EGYPT.

In compliance with the Department circular, I sent out a series of questions to those dealing in American goods, and interviewed many, and I give herewith a summary of reports received and results of inquiries made verbally on the commercial relations between the United States and Egypt:

(1) Are American manufacturers amenable to suggestions made from Egypt?

The general experience is that they are not, and that they rather resent suggestions. This applies especially to the machinery trade. Unlike British manufacturers, the Americans refuse to guarantee their goods, contenting themselves by saying "the machines do the work we claim for them in this country (the United States)," and then proceed to put idiomatic expressions into their letters which are, in many cases, beyond the linguistic attainments of the intending agent or purchaser. One manufacturer lost a market for his "cultivators" owing to the springs carrying the body of the machine not being strong enough to properly support the machine when crossing the irrigation channels, with which all fields in Egypt are intersected. In reply to the suggestion made to strengthen the springs, he said that the machines were not made to "jump ditches." These ditches are rillets of but 2 or 3 inches deep. Suggestions as to "finish" of certain wearing parts are as regularly scouted as they are made, as are also suggestions about modifications to make the machines more adaptable to the peculiar agricultural conditions of the country, the nature of the soil, etc. British manufacturers have long had the reputation of acting in precisely a similar manner as that now attributed to Americans, but I have it from a gentleman recently returned from the United States, which he visited for the sole purpose of inducing manufacturers to introduce certain modifications in their agricultural machinery which were essential to their efficient working in Egypt, that he simply lost his time and money, and returning east he offered his suggestions to a British manufacturer, who at once took up the business. The purchaser is paying 30 per cent more for his machines, but he gets what he requires, and also the guaranty for working efficiency, which the American manufacturers refuse. The coming market in Egypt is that for machinery, and it is needless to point out that all descriptions of machinery are referred to.

The above strictures do not apply to the American manufacturers of pumps, whose goods as a rule do better work and last longer than is

anticipated; but this exception only serves to emphasize the complaints made in other directions as regards what might be termed complicated machines.

In machinery and "parts of machines," hardware and kindred industries, the United States would appear not only not to be holding its own, but to be retrograding. The causes for this will be explained when I come to deal with the questions of credit and direct orders.

There are invariably two sides to a question, and it is proper that I should present both. Whatever may be the case now, there can be no question that formerly agencies were taken up—not only for American wares, but for the machinery of other countries—by people possessing not the least mechanical or technical knowledge. They were concerned only in selling at a good commission, and then wiped their hands of any further responsibility or interest in the goods sold. When, through their want of technical knowledge or indifference to results obtained by the machines they had sold, they found the demand suddenly disappear, they as suddenly opened up some other agency for an article they were equally ignorant about. They knew what they paid for it and what they intended to sell it for, and that was about all. It is not to be wondered at if, when such individuals wrote letters to manufacturers suggesting improvements (?) and modifications, they exhibited in their letters their utter ignorance of the conditions of production, to say nothing of their very evident lack of mechanical knowledge, that idiomatic expressions were sent in reply. American locomotives a few years ago obtained an unenviable reputation in Egypt, and were the subject of more than one official report and reference. Here, again, I think it but just to remark that at the time they were ordered there was a general outcry at the lack of transport; locomotives were required and that immediately. American manufacturers undertook to fill the void in an incredibly short space of time, and did so. The order was in every sense "rushed" to fill an immediate necessity. Under other conditions it is not impossible that American manufacturers could successfully compete with those of other countries, whether from the point of view of rapid delivery, finish, or general efficiency, or all three combined. The reasons for the comparative failure of the American locomotives to come up to local expectations might form the subject of a report by a machinery expert sent here to study the general question of machinery for the Egyptian market.

(2) Are orders sent direct to the manufacturers or through European agents?

It is seldom that anyone repeats the experiment of sending a direct order to the United States. The invariable rule is "cash with order," and the general impression here is, that once he has the cash, the American manufacturer troubles himself little as to when or in what condition the goods reach their destination. Even where credit is

given the bills mature long before the arrival of the goods, and the purchaser has practically no remedy for loss owing to delays, broaching of cargo in transshipment, deterioration on voyage, and loss of a market demand, which, meanwhile, has been satisfied from elsewhere. Fifty-two days would, as a rule, appear to be the quickest time in which a direct order from the United States might be completed by the arrival of the goods here. In the case of perishable goods it would be safe to say that a second direct order is never sent—as the buyer must risk total loss—for it has happened that consignments of an alimentary nature have arrived from the United States in such condition that they have had to be destroyed by the health authorities, and although the instances may be few, their effect is very widespread.

In some instances orders sent direct to manufacturers in the United States are sent by the manufacturers to agents in Europe for execution as a consequence of some arrangement for exclusive agencies being granted for particular zones. The system gives rise to dissatisfaction here, but the consequences to American trade are far more serious than would at first appear. It is with no little trepidation that I transmit for the information of American manufacturers the following, as, from my personal knowledge, I can not vouch for what is related to me as fact, but it is for those directly interested to make the necessary inquiries into the subject and see about setting their houses in order:

The system of filling orders through Continental agencies is a gratuitous indication as to where a new market is springing up, and no sooner has an American article made its way and created a demand than a cheap imitation produced elsewhere is thrown on the market, the cards and packing being so got up that the inexperienced buyer sees no difference.

The person from whom I obtained this information made no complaint about the system. He really seemed to be amused at the idea that the Yankees, considering themselves so “cute,” should not have detected what was going on. It was a matter of indifference to him where the goods were produced; he supplied a demand and made his profits in doing so, and it was not his affair to suggest any change in the existing order of things.

As regards the trade under the head of “alimentary” products, it is found advisable to send all orders to the large establishments in England receiving regular consignments from the United States. Such houses take especial care in selecting the latest received goods for export to Egypt, insure that they are all of first-rate quality, and that all packages are secure. Through such houses goods are landed here in twenty-four or twenty-five days from the day they were canned in the United States. A direct order would take anything from fifty-two days, the quickest time, to the remainder of a year.

In connection with the complaint of delays, I give the following

explanation for what it is worth and without in any way desiring or intending to cast any reflection upon shipping offices: Small orders, at the time they are filled, may be sent to a shipping house not at that moment prepared to ship; dead weight and cubic measurements must be made to counterbalance in some way over general freight, and shipping houses go on collecting goods until they have a general consignment which they can ship without loss to themselves or raising the rate of freight all round. Such a system is in vogue in Egypt in some cases, and I know of one instance where an agent kept a consignment for nearly six weeks awaiting an opportunity which was financially favorable to himself for shipment. The United States is, like Egypt, dependent upon the mercantile marine of other countries for her sea-borne trade.

PACKING.

I made particular inquiries on the subject of the packing of American goods for export, and ascertained that when American manufacturers knew of the actual destination of their goods the packing of them was beyond all praise. I was led to make these inquiries from the extraordinary assertion made that trading skippers would, wherever possible, leave American transshipped cargo behind "for the next boat." The explanation is a simple one. Commission houses have their own reason for not disclosing the actual destination of the goods they order. The packing department of the factory they are ordered from pack to insure safe delivery at what they consider the destination of the goods, and this presumed destination may be but a few miles distant. The packing under such circumstances is very different from what it would be if the packers knew that the cases would have to undergo two or three transshipments with the inevitable "dumping" of the cases on docks, wharves, and quays. Let me repeat that, knowing the destination, the packing of American goods leaves nothing to be desired, and the packing cases themselves arrive in such sound condition that local joiners and cabinetmakers await their emptying and compete for their purchase.

CREDITS.

(3) Is credit given?

I have heard of but one American firm which allows an effective credit.^a All others insist upon cash with order, or the acceptance of

^aThis firm ships goods to its own order here, sending all documents to a local bank. The actual consignee is notified of their arrival, and on accepting the draft which accompanies the bill of lading is handed the latter. The term of his credit runs from the date the goods are cleared from the custom-house. In this particular case the goods are never more than six weeks in transit—a very different matter to the usual three to four months occupied when shipped under other conditions. The excuse put forward by some American houses for demanding cash with order is that the consignee might die or go bankrupt while the goods were en route. The excuse in itself is an utter condemnation of the methods employed in overseas trade. If one firm can so arrange matters as related above, why can not all do so?

bills drawn at such short periods that they mature long before the goods arrive here. The whole question of the future expansion of American trade with Egypt hinges on that of credit—reasonable credit. Is it not strange that the Continental agents for American firms are enabled to allow credit to their Egyptian clients, while the manufacturers themselves, when written to direct, absolutely refuse it? I am aware that in some trades preferential tariffs have much to do with the system of Continental agencies, "parts of machinery," etc., being shipped to the Continent as such, and the machines being built up at places where labor is cheap; but the general complaint here is that almost all American trade must be transacted through the Continent, the result being that the cost of transshipments, two or three freight charges, customs dues, and intermediate commissions so enhance the first cost of the article that the sale is necessarily limited to those having the longest purses, and these are not by any means in the majority in Egypt. The impression appears to be that, given reasonable facilities as to credit and, above all, more rapid delivery, trade might be much expanded, for the goods could be sold at lower prices and thus be brought within the means of the many instead of the few.

Credit must be given by the local dealers in Egypt until the gathering in of the various crops, the cotton crop in particular, and Continental agents and manufacturers have taken the trouble to learn this and make arrangements accordingly. Business here to a large extent depends entirely upon the "season," January to March, and the travelers for the goods they deal in are now here filling orders and drawing their bills to coincide with the end of the season.

Perhaps this subject will be better brought home to American manufacturers when I mention that a large establishment (with branch houses) dealing exclusively in American goods, machinery and machine tools in particular, has been obliged to turn its attention to the English market, as it finds it impossible to compete with others in Egypt under the stringent terms of cash or short credit it has been obliged to accept. This firm, as everyone else, must give credit to local purchasers, and it has been compelled to turn its attention to markets which, appreciating trade conditions in Egypt, go out of their way to meet them.

It was a mistake on the part of the few American commercial travelers who have called here to have come with the fixed idea that "an exclusively American article" was in demand, and that such articles must be purchased through them and on the terms they chose to dictate. I have already shown that merchants here can deal in American goods far more satisfactorily with houses in England, and in some cases with houses on the Continent. Here again is a question for the trade expert to report on.

(4) Are American goods holding their own in Egypt?

As will have been gathered from the foregoing, they are not, and present indications point to a further falling off in American imports unless some radical change is made by those whose principal interest it is to develop their foreign trade, supply new markets, and create demands. The imports of petroleum have fallen from \$657,419 in 1884 to \$23,751 in 1903. The imports of building timber have steadily declined from \$187,834 in 1898 to \$86,255 in 1903. The imports of chemicals, medicines, and perfumery remain stationary at about \$9,969, and under the heading of nonspecified goods the decline is steady from year to year. It is true that leather goods, principally boots and shoes, have increased from \$4,943 in 1898 to \$34,600 in 1903, but already another market is supplying very similar goods, with a very similar trade name, which, in the immediate future, will kill the demand for the American goods. The United States created this particular market, and has made a gratuitous present of it to some Continental agent in the manner I have already indicated.

CONCLUDING REMARKS.

I feel certain that the foregoing will be unpleasant reading, and as much as I have striven to avoid anything of a controversial nature, I am conscious that complete success has not attended my efforts. Yet no harm can be done if, as a result of this report, American manufacturers combine to send out to Egypt one or two trade experts to report on trade generally and offer suggestions for the future. Among the many American manufacturers spending the winter in Egypt each year surely two or three could be found possessing the requisite technical knowledge, who could devote some of their spare time to this most interesting question. They could, in their reports, take up special points which I have considered it advisable to refrain from commenting upon for very good reasons.

The long list of imported articles which I have given in the earlier part of this report will serve as a preliminary guide to the directions in which inquiries should be made, but I would beg to call special attention to the timber trade.^a There is no doubt in my mind that a very considerable trade might be done with Egypt in the way of flooring

^aThe Egyptian imports of timber for building purposes have steadily increased year by year, from \$1,184,000 in 1884 to \$4,481,524 in 1903. The American imports of timber into Egypt commenced in 1893, reached \$188,000 in 1898, and have steadily declined since. In view of the intention of the Norwegian Government to put an export duty on timber, merchants here are ordering abnormal quantities before the projected new law can be put in operation. The wharves in Alexandria are, at the date of the compiling of this report (November 1), stacked high with lumber, and to such an extent that traffic is congested. To remove it would require 300 wagons a day for some time. The available transport and labor in Alexandria can not cope with the abnormal work. The traffic department of the railways has considered it advisable to photograph this "timber block."

boards, doors, window frames and sashes, Venetian shutters (with which all windows in Egypt must be fitted), and in furniture, the parts of all of which might be imported in bulk and fitted here where labor is so cheap.

I have already mentioned that the purchasing power of the country is increasing year by year, but I should go further and say that the purchasing power of the fellah (native cultivator) may now be exhibited, and he takes care that it is. It is but a few years since any display, not of wealth but of being one degree above the limit of abject poverty, would have brought round the Government taxgatherer with his persuasive kourbash to wring out the last coin for the benefit of a depleted treasury. The fellah's craving for modern comfort, not to mention luxuries, increases with his growing prosperity and feeling of absolute security. Iron bedsteads and woven iron mattresses have replaced the old "angareeb" (a sort of couch); wooden floors have made their appearance in upper rooms; cheap European carpets with gaudy colors take the place of reed mats; bent-wood chairs and substantial tables provided with crockery and cutlery, and a tablecloth, replace the old mat and brass tray which formerly represented the furniture of the dining apartment—and so on through a whole chapter. The picturesque squalor and poverty, once the delight of the artist, must be looked for now on the limits of cultivation, not near the Nile or the neighborhood of the larger towns. Indeed, one often hears the complaint made that the oriental characteristics of Egypt are rapidly disappearing, whether it may be in connection with the handsome blocks of buildings being constructed all over the country or in the clothing and domestic life of the inhabitants. And it is to this new people, and this new country—for it is a new country in spite of the antiquity of its monuments and history—that I recommend American manufacturers to turn their serious attention.

FREDERICK G. MORGAN,
Vice-Consul-General in Charge.

CAIRO, EGYPT, *November 5, 1904.*

Value of trade of the United States with Egypt, 1892 to 1904. ^a

Year ended June 30—	Imports from Egypt.	Exports to Egypt.	Year ended June 30—	Imports from Egypt.	Exports to Egypt.
1892.....	\$2,250,484	\$136,274	1899.....	\$7,489,929	\$494,196
1893.....	3,354,825	128,687	1900.....	8,278,022	1,095,613
1894.....	2,165,485	181,252	1901.....	7,212,279	1,216,773
1895.....	3,628,462	137,694	1902.....	11,368,301	1,269,449
1896.....	8,043,797	215,540	1903.....	10,714,205	692,580
1897.....	7,027,006	323,761	1904.....	7,725,328	564,957
1898.....	5,017,707	816,915			

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

TRADE OPPORTUNITIES IN SERBIA.

(From United States Minister Jackson, Athens, Greece.)

I transmit herewith a clipping from the financial and commercial supplement of the London Times on "Trade opportunities in Serbia." Serbia has been even more neglected by American traders and capitalists than by the British. At present, so far as I am aware, there is only one American citizen resident in the country, and he is by birth a Hungarian. The opportunities offered are certainly considerable, but they can only be availed of with caution and through trustworthy agents on the spot.

JOHN B. JACKSON, *Minister.*

ATHENS, GREECE, *January 14, 1905.*

ISOLATION OF SERBIA AS A MARKET.

Of all the European countries Serbia appears to have been most neglected by British traders and capitalists. At the present time there are only six subjects of our King living there, of whom two are officials. Yet there is no country where Englishmen are more warmly received, and where the inauguration of business enterprises which would lead to increased commercial relationships would be welcomed to a greater extent. Serbia presents many opportunities. It has great capabilities in respect to agriculture, general commerce, and mining, which only need the fertilizing influence of capital, and the stimulation of efforts by business men, to yield satisfactory results both commercially and to the nation at large. The lack of British enterprise in Serbia appears to be due to its position, far from the sea both to the east and west, with a language which presents many difficulties to the nonlingual islander, and which can only be reached overland by a long railway journey across four other countries. Probably, also, political questions have deterred our traders, for there is a jealousy manifested by one if not two neighboring nations lest British trade should be developed, and the antagonism manifested among the southeastern peoples, with all the uncertainties thus resultant, does not induce British speculators to come forward. But the chief factor is that the country is so little known, for the Servian people are a peaceful folk, taking small interest in politics, industrious, rather conservative in methods at present, but intelligent, although education is yet backward, and it speaks much for the people that there are no paupers in the country. At the present time the purchasing power of the Servians is not great, but is increasing, and the villages especially show signs of a modest prosperity which is very pleasing.

EDUCATION.

In spite of the many political changes which have passed over the country, a considerable amount of attention has been given to educa-

tion, more especially of a practical character in relation to agriculture. Several State farms have been established, of which the more important are at Dobretchevo, Lubritchevo, Shabatz, and Belareka, where are bred farm stock suitable to the districts in which they are situated. In addition, there are two large colleges, at which, although attention is given to stock and general agriculture, cultivation of the vine and fruit growing receive the greatest amount of attention. Doctor Radovanovitch, the minister of agriculture and commerce, is taking very keen interest in the development of these agricultural centers, and expresses a strong desire to encourage trade with England.

LIVE STOCK AND MEAT EXPORTS.

Servia has always been famous for its pigs, and swine form the greater proportion of the live stock of the country. They are ubiquitous. At the railway stations they are to be seen in considerable numbers, and there are loading slopes on two levels so that the animals can be driven into the double-decked wagons which are commonly used. The native pig is short in body, hardy, a good feeder, and fattens well, but it makes too much fat for the British markets. To remedy that defect, English breeds have been introduced with a satisfactory result. Killing stations are met with in several centers, notably at Jagodina and Velika Plana. Some time ago a very fine abattoir was erected on the Danube side at Belgrade, covering 10 hectares (24.71 acres), owned by the Servian Slaughterhouse Company, and established by Servian capital. Here 10,000 cattle, 15,000 sheep, and 30,000 pigs are fed and slaughtered annually. Last year two wagonloads of sheep were sent as a trial to London, but the result was by no means equal to the expectations, and a further trial is now being made. The meat is shipped in large refrigerator cars, but considerable complaint is made as to the charges for the long journey to Antwerp, and it is hoped that, either by reductions over this route or by shipping via Fiume, the trade may receive greater encouragement. It is a question, however, whether Servian sheep are good enough for our trade. The summer heat is so intense that the pastures are burnt up, and at the end of that season the sheep are not in good condition. At one time pigs were exported, as are turkeys now, to Hungary, and there fattened with Servian maize to be slaughtered and returned. To prevent this, a law has been passed that no pigs under a given weight may be exported, with the result that, by means of the abattoirs and fattening centers already named, the work is now performed in the country.

RAILWAYS.

One of the chief necessities is for a great extension of the railway system of the country, which is very limited indeed, large areas being unopened. Proposals are now before the Servian Parliament for large appropriations in this direction, but capital is needed, and that can scarcely be found in the country itself. With increased facilities of transit there can be no question that the productiveness and internal trade of the country would rapidly grow. Armaments are essential in any country which is compelled by position to defend its independence,

but it is to be regretted that the cost of these could not be utilized in the building of railways.

AGRICULTURAL COOPERATIVE SOCIETIES.

A most promising development has taken place in the organization of agriculture by cooperation. The Central Society at Belgrade is presided over by M. Losanitch, formerly minister of agriculture, minister of foreign affairs, and at one time Servian minister in London. There are now 430 cooperative societies in the country, chiefly agricultural. These societies are principally used for the purchase of farmers' requirements, manures, and machines, all of which are at present bought in Germany, but there ought to be a favorable opportunity for our English makers if they will look after the trade. The only British commodities now bought are groceries for forty local distributing societies.

FOREIGN TRADE.

The foreign trade of Servia is at present small, amounting in all during 1903 to \$29,130,857. Of that, however, about \$6,176,000 are represented by goods in transit through the country, leaving \$22,813,114 as the actual trade apart from railway charges. Of this last-named sum the exports amounted to \$11,573,708 and the imports to \$11,239,406. In 1902 the exports were greater by \$2,346,156, which is explained in the annual report published by the Servian ministry of commerce by the bad harvest of last year, affecting the principal agricultural products.

The articles of export in 1903 were divided as follows: Agricultural products, \$3,172,430; animals, \$5,888,757; manufactured articles, \$2,512,521.

It will thus be seen that agriculture represented about 78 per cent of the exports, and animals, exclusively, nearly 50 per cent. As my object is to indicate the importance of extending the trade between Great Britain and Servia, I give the following figures for 1903 showing for various countries both imports into and exports from Servia:

Imports and exports of Servia, by countries, in 1903.

Country.	Imports.	Exports.	Country.	Imports.	Exports
America	\$147,926		Roumania	\$216,614	\$257,449
Austria-Hungary	6,825,084	\$9,905,631	Russia	140,265	72
Belgium	46,771	68,162	Turkey	358,988	408,945
Bosnia	14,854	30,731	France	527,876	26,061
Bulgaria	74,662	150,448	Netherlands	63,509	18,499
Greece	95,514	38	Montenegro	14,031	347
Great Britain	949,679	50,465	Switzerland	168,487	12,021
Italy	226,965	54,601			
Germany	1,368,241	589,298	Total	11,239,406	11,573,708

Percentage of the several countries in the foreign trade of Servia in 1903.

Country.	Imports.	Exports.	Country.	Imports.	Exports.
	<i>Per cent.</i>	<i>Per cent.</i>		<i>Per cent.</i>	<i>Per cent.</i>
Austria-Hungary	61.5	85.56	America	1.31	
Germany	12.7	5.09	Russia	1.24	
England	7.36	.43	Greece .....	.85	
France	4.69	.22	Bulgaria .....	.66	1.29
Turkey	3.29	3.53	Holland .....	.56	.16
Italy	2.02	.47	Belgium .....	.42	.58
Roumania	1.92	2.32	Boemia .....	.14	.26
Switzerland	1.49	.10	Montenegro .....	.12	

BRITISH-SERVIAN TRADE.

Considering the distance from England to Servia it may be thought that to secure 7.36 per cent of its import trade is not unsatisfactory, but this fact indicates that by the adoption of energetic methods much more might be done, and it will be the fault of our business men if the growing demand for manufactured articles in Servia is not largely secured by them and the disproportion greatly reduced between our trade and that of Austria-Hungary and Germany.

The chief trade between the United Kingdom and Servia is indicated by the following statistics:

Imports into Servia, 1903.—Woolen goods, \$53,392; food and drink, \$1,470; glassware, \$685; metals, \$48,519; hides and leather, \$61,709; coffee, rice, etc., \$49,972; drugs, \$6,185; machinery, \$9,811; cotton goods, \$687,652.

Exports from Servia, 1903.—Tobacco, \$9,497; fresh meats, \$31,671; live fowls, \$482; dead fowls, \$8,813.

No grain appears to have been forwarded direct to Britain. It may be added that in 1903 America sent to Servia coffee to the value of \$94,665 and machinery to the value of \$8,045.

IMPORTS INTO SERVIA FROM AUSTRIA-HUNGARY AND GERMANY.

It is of interest to note what are the principal articles imported from Austria-Hungary and Germany into Servia, which could be supplied by Great Britain:

Imports into Servia from Austria-Hungary and Germany in 1903.

Articles.	From Austria-Hungary.	From Germany.	Articles.	From Austria-Hungary.	From Germany.
Paper.....	\$184, 036	\$26, 198	Hides and leather.....	\$649, 463	\$249, 583
Woolen goods.....	426, 546	258, 045	Chemicals	680, 575	125, 379
Coke, etc.....	82, 798	247	Machinery	197, 705	184, 708
Ware	47, 564	3, 915	Cotton goods.....	881, 254	
Metals.....	818, 980	157, 548			

CONCLUDING REMARKS.

The country may be regarded as poor, and, considering its size and small population, that is not an incorrect impression; but such wealth as there is in the country is very equally divided, and it is rich in its possibilities. Apart from the political difficulties, and they are by no

means few, there is a great movement in progress which, within a few years, must result in a large increase of foreign trade, and if at the moment capital can be secured for the development of the country, for the extension of its railroads, and for the organization of its commerce upon modern lines, imports will grow rapidly. To those who take time by the forelock in cultivating this trade will come a full reward for their enterprise. Whether the business is to be increasingly with the British Empire depends not upon the Servians so much as upon our own enterprise.

MERCHANT MARINE OF THE WORLD.

(From United States Consul-General Skinner, Marseille, France.)

The following report has been prepared in reply to inquiries from correspondents in the United States concerning the advantages possessed by European merchants over American merchants, especially in regard to the subsidies and bounties paid by the French Government to its merchant marine:

FRENCH SUBSIDIES AND THE FRENCH MERCHANT MARINE.

1. The subsidies and subventions paid by the French Republic to its merchant marine cover not only the building but also the operation of French ships engaged in foreign trade.

2. There is no doubt whatever that the payment of subsidies has increased the number of French ships engaged in foreign trade. In many cases these subsidies have created the lines to which they are paid. Practically every vessel floating the French flag and engaged in foreign trade either receives or has received bounty from the Government. Under certain conditions, after the expiration of a period of years, the subvention for mileage covered is no longer paid. I assume that my correspondents are in possession of the French law on this subject, and hence shall not go into a discussion of legislation as it stands. The revision of the law a few years ago resulted in an immediate increase in the national merchant marine.

3. No doubt the increase in vessels has also increased the percentage of the world's commerce carried under the French flag. In order to secure the subvention for mileage ships must necessarily remain in commission and therefore find freight.

4. The amount paid to the highly subsidized lines, such as the lines from Havre to New York, and Marseille to a great number of places, particularly in the Orient, bear very little relation to the value of the service rendered in carrying the mails. The carrying of mails is merely incidental.

5. The subsidized lines are those having direct contracts with the Government, under which the ships ply between far distant ports, as, for example, between Hongkong and Marseille and Marseille and

the Levant, and not between such ports as Calais and Liverpool, suggested by correspondents. A distinction is made in France between the words "subsidy" or "subvention" and "premium" or "bounty." Subsidies are paid to lines contracting with the Government for special services. A premium or bounty is paid under certain conditions to all French vessels plying between French ports and any foreign ports where trade is available. The bounty is paid upon the basis of marine miles covered.

6. The value of fast merchant steamers as naval auxiliaries in time of war is a technical question about which considerable difference of opinion exists. Undoubtedly these steamers would have a certain value in time of war, as we already know in the United States in consequence of our experience during the war with Spain.

7. On June 30, 1903, the French merchant marine consisted of 690 steamers of 559,000 tons net, and 601 sailing vessels of 415,000 tons net. During 1903 this fleet was increased by 83,000 gross tons. The subsidies paid for mail steamers amounted to \$5,019,308 in 1903, and has averaged about that amount since 1894. The premiums paid for building new ships amounted to \$2,994,184 in 1902, against \$1,838,625 in 1901. The subventions or premiums paid for navigation in France amounted to \$4,007,681 in 1902, having increased fairly steadily from \$575,312 in 1881.

AMERICAN AND EUROPEAN MERCHANT MARINES.

8. One correspondent inquires: "Do you think our Government ought to subsidize our merchant marine; and if so, in what way?"

In my judgment it is impossible for an American merchant marine to engage successfully and generally in foreign trade without obtaining Government support in some manner; or, failing in this, without giving to vessel owners absolute liberty to man their ships, from captain to cabin boy, with the cheapest available labor, wherever found, and with the further privilege of raising the American flag over foreign-built vessels.

From all that I have been able to learn, the excess of cost of American-built ships over foreign-built ships arises, in considerable degree, from the insistence of American owners upon a finish which foreign owners do not regard as necessary. British tramp ships, for example, are turned out from standard designs and are so put together that after two or three years' service they have the external appearance of time-worn bottoms. American owners require that all bolts and edges shall be so trimmed and other parts so finished that the ship shall retain its smartness after having been in commission for years. European owners care nothing about appearance so long as their vessels are capable of carrying cargo with a minimum of cost, while American owners uniformly feel a pride in certain externals which cost considerable money. The original cost of our ships is not

the most important difficulty, however, which besets American owners. American sailors, serving American ships, require American wages. These wages are approximately twice those paid to British sailors, and very much more greater than those paid to the still cheaper sailors of other maritime nations of Europe.

BRITISH, ITALIAN, AND JAPANESE MERCHANT MARINES.

We are in the habit of considering that the supremacy of the British merchant marine is practically unchallenged. This is absolutely not the case. The British nation is confronted to-day with much the same problem as that confronting the United States. It costs more money to operate British ships with British sailors than it does to operate German, Italian, Spanish, Danish, or Japanese ships, and the typical British able-bodied seaman is fast disappearing. Mr. R. W. Leyland, president of the association of Liverpool shipowners, has warned the British public in regard to these facts in a vigorous letter, wherein he states that the Italian steam tonnage has passed from 300,000 tons in 1890 to 700,000 tons in 1903, and that Japanese tonnage has passed from 138,000 tons in 1890 to 600,000 tons in 1903. He adds that the methods of rapid development employed by these two nations are worthy of careful study, since they attack the maritime ascendancy of Great Britain.

In the last annual report of the Peninsular and Oriental Steamship Company, perhaps the most important of British navigation companies, it was stated that Australia menaced the company with a withdrawal of its subsidy unless the company would cease employing Indian labor, and it was further stated by the president of the company that rather than comply with this condition the company would abandon the subsidy.

We can draw our own conclusions from these and similar facts.

PENSIONS TO FRENCH SAILORS.

In France encouragement to join the merchant marine is supplied by the Government in the form of small pensions paid to French sailors after protracted service. The French Republic maintains what is practically a naval militia, the French sailor being obligated in case of war to abandon his private employer and take his place under the flag. Thus the French military marine is provided with a reserve of French sailors in case of difficulties.

FOREIGN VIEW OF THE MARITIME FUTURE OF THE UNITED STATES.

The foreign view of the maritime future of the United States may be gathered from the following language, employed by the Marseille Chamber of Commerce in its latest annual report:

However it may be, and in spite of the fact that everything is dear in America, because of the general conditions prevailing in that country,

it is none the less true that the United States has a large exterior commerce and the genius of mechanical and naval construction to as great an extent as any nation. The development of its merchant marine is inevitable and near, either with the assistance of premiums or by reason of the power of expansion of that privileged country. We persist in believing, as one year ago, that the future conqueror of the sea will raise the Starry Flag.

The conclusions arising from our various studies are, that the crisis of our shipowners is serious, intense, and general; that its principal cause exists in the overproduction of naval material, generating bitter competition; and that in spite of this all the nations able to do so seek by every means, apparent or concealed, direct or indirect, to develop and sustain their shipyards and their national marines, moved by the unmistakable sentiment that these two industries are essential to the grandeur and prosperity of their countries.

Upon the main question, Is it necessary to our continued prosperity and commercial development to possess a merchant marine for foreign trade? I regard it as useless to dwell. Every one familiar with the markets of the world, and the discouraging difficulties which attend our efforts to secure trade in many remote localities, answers the question immediately in the affirmative.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *January 26, 1905.*

MOTORS FOR BOATS IN WESTERN NORWAY.

(*From United States Consul Cunningham, Bergen, Norway.*)

Is it the 5 per cent ad valorem duty which has kept most American manufacturers from attempting to secure part of the trade in motors in western Norway? So far as I know only two American companies have attempted to do business in Norway to date. One manufacturer of kerosene motors, with an agent in Bergen, placed 22 American motors of from 3 to 22 horsepower last year, and an agent of American gasoline motors in Christiania has also sold some gasoline motors; but he has not given this section much attention.

The installation of these auxiliary motor powers in Norway has been very slow in comparison with what it has been in Denmark and other countries. Two years since, perhaps, not a fishing boat was equipped, but the general belief is that motors will be rapidly adopted from now on. One small town, very much in advance of others in this particular, has, during the last year and earlier, installed over 70 kerosene motors in boats of different kinds.

Not many motors have been installed in fishing boats, but those that have been have given a great impetus to the demand, and it will not be a great while, if those in use continue to give satisfaction, before every fisherman who is able to do so will equip his boat with auxiliary power of some kind.

The business has scarcely been introduced, but no more fertile field can be found than in Norway, if these kerosene and gasoline motors are all that is claimed for them. The west coast has a fleet of several thousand boats engaged in fishing, and the fishermen are fully awake and will adopt such methods as will increase their returns by increasing their catch or bringing it to market quicker. In this country, with its great coast line and numerous fjords, boats are used where in most other lands some form of carriage or railroad is used. Wood is brought great distances to market in sailing boats. One of these recently installed a 22-horsepower American motor. Many business people travel almost entirely by water. The clergyman in visiting his parishioners must have his boat, and police and other officers of the Government travel the same way. Some of these have equipped their boats with small motors with very satisfactory results. Then the pleasure seekers and residents of islands doing business elsewhere, not in small numbers, would welcome motors that could always be relied upon. Probably no place furnishes a greater variety of wants for good motors than western Norway.

No one must conclude that because the field is a good one sales will be easy. Though opportunities have been neglected for a time, and in the adoption of an auxiliary motor west Norway is very much behind other places, the trade is now being sought after keenly by Danish and Swedish manufacturers, and several workshops in Bergen and elsewhere are building very good motors. Two years ago there was not a manufacturer of motors in Norway; to-day there are eleven workshops and factories which build them. This includes three Danish manufacturers who have opened works here. All of these plants are small, but form the beginning of what in time may become a good business.

With the purpose of confining this trade to Scandinavian manufacture, there has been organized the Northern Motor Union of Manufacturers, whose avowed intention is to cooperate to develop this trade for the Scandinavian manufacturers to the exclusion of others.

Some of the Danish motors sold here are excellent, and compare very favorably with the American makes, though persons who have used the latter, including at least one workshop in northern Norway, bear out the claim made for the American motors that they occupy less space, consume less oil, and are nearer noiseless.

MISCELLANEOUS MOTOR INFORMATION.

Duty.—The duty on imports of motors is 5 per cent, but it has been proposed that this be increased to 10 per cent.

Patents.—It would be well and wise for business men and inventors to protect themselves by patenting their inventions in the countries of Scandinavia, covering all features of special merit in their motors.

Terms of sale.—At present most motors are sold for one-half cash, remainder on time, extending in some instances over a period of twelve months, the vendor retaining title until the motors are paid for.

Repairs.—To secure any part of this trade it would seem almost compulsory that articles for repairs as well as a stock of motors be kept nearby. At present the great ignorance of the proper care of motors frequently causes dissatisfaction, whereas if some well-informed agent could be reached to adjust any part when out of repair, he could profit very greatly until the person handling the motor has become familiar with it. The company which has a good motor and is prepared without great delay to educate the user to replace defective parts when out of repair can build up a good trade in western Norway.

EXHIBITIONS OF MOTORS.

An exhibition of motors was held at Copenhagen in 1903, and a second exhibition was held in July, 1904, at Marstrand, Sweden. It is proposed to hold a third in Bergen in 1907, under the auspices of the "Selskabet for de norske Fiskeriers Fremme." More particulars will be given later as to the proposed exhibition, which probably will be confined to Scandinavian manufacturers and foreign manufacturers who have resident agents.

E. S. CUNNINGHAM, *Consul*.

BERGEN, NORWAY, *January 19, 1905.*

DIVORCES IN ENGLAND AND WALES.

(From United States Consul-General Evans, London, England.)

The following statistics of divorce proceedings are from the latest official reports of the divorce courts of England and Wales:

The number of petitions filed for dissolution of marriage in 1902 was 1,050, against 900 in 1901. The annual average number of petitions filed in five years (1898–1902) was 853. The number of petitions filed in 1902, by husbands, was 609; by wives, 441; total, 1,050.

Classification of petitions for divorce in England and Wales in 1902.

Decree asked.	Plaintiff.		Total.
	Husband.	Wife.	
Dissolution of marriage	596	293	889
Judicial separation	2	96	98
Nullity of marriage	10	20	30
Restitution of conjugal rights	1	32	33
Total	609	441	1,050

The reports show prompt action of the courts, in that of these 1,050 cases 930 were set for trial during the year, as follows: For dissolution of marriage, 794; for judicial separation, 75; for nullity of marriage, 29; for restitution of conjugal rights, 32.

Of the suits, 32 were withdrawn or otherwise settled out of court; 189 were defended; 545 were undefended, and there were 164 cases pending at the end of the year.

Judgments were rendered as follows: For husband, plaintiff in 397 cases; for wife, plaintiff in 284 cases; for husband, respondent in 17 cases, and for wife, respondent in 10 cases.

Grounds upon which decrees of divorce (nisi) were granted in England and Wales in 1902.

Grounds.	Petition of—		Total.
	Hus- band.	Wife.	
FOR DISSOLUTION OF MARRIAGE.			
Adultery	389		389
Incestuous adultery		2	2
Rape		1	1
Sodomy		1	1
Adultery and cruelty		124	124
Adultery and desertion		80	80
Adultery and bigamy	1	7	8
Bigamy and cruelty		1	1
Total	390	216	606
FOR JUDICIAL SEPARATION.			
Adultery		11	11
Cruelty		11	11
Desertion		7	7
Total		29	29
FOR NULLITY OF MARRIAGE.			
Impotence	1	4	5
Incapacity	4	6	10
Bigamy	1	6	7
Total	6	16	22

Duration of marriage of applicants at date of filing petitions for divorce in England and Wales in 1902.

Petitioner.	Under 1 year.	From 1 year to 2 years.	From 2 years to 3 years.	From 5 years to 10 years.	From 10 years to 20 years.	20 years and over.
Husband	1	5	77	207	257	61
Wife	1	10	41	141	179	70
Total, 1902	2	15	118	348	436	131
Total, 1901	2	27	110	262	400	99

Age and condition at time of marriage of plaintiffs and respondents in divorce proceedings in England and Wales in 1902.

Age when married.	Bache-lor.	Spin-ster.	Widow-er.	Widow.	Divorced.		Un-known.	Total.
					Hus-band.	Wife.		
Under 21 years	77	350	1				1	429
Twenty-one years and over	920	662	51	34	2	1	1	1,671
Total, 1902	997	1,012	52	34	2	1	2	2,100
Total, 1901	835	859	56	25	4	8	13	1,800

Number of children of petitioners for divorce in England and Wales in 1902.

Petitioner.	None.	One child.	Two children.	Three to six children.	Over six children.	Total.
Husband.....	230	140	98	131	9	608
Wife.....	185	115	62	65	15	442
Total, 1902.....	415	255	160	196	24	1,050
Total, 1901.....	356	220	150	153	21	900

The population of England and Wales is about 33,000,000, showing that there was one petition for dissolution of marriage in some form filed in the courts in 1902 for about each 32,500 population. Experimental or trial marriages, seemingly, are not encouraged by the ease of securing divorce. The sentiment of the people, sustained by the courts, is clearly against divorces or the divorced. The established church is against performing the marriage ceremony where either party to the proposed marriage is a divorced person.

H. CLAY EVANS, *Consul-General.*

LONDON, ENGLAND, *February 6, 1905.*

DOUBLING CROPS IN ENGLAND.

(From United States Consul Mahin, Nottingham, England.)

Experiments carried out during the past season in this country demonstrate what liberal fertilizing may do with naturally poor clay land. In one case, a mangold field was divided into five plats, one of which was left unmanured for comparison, while the others received 4 hundredweight (448 pounds) per acre of superphosphate, with and without nitrogenous manure. The unmanured plat gave 12½ tons of roots per acre. Superphosphate alone raised this yield to 20¼ tons; superphosphate and 2 hundredweight (224 pounds) of nitrate of soda per acre raised the yield to 27¼ tons; superphosphate and 4 hundredweight (448 pounds) of nitrate raised it to 34 tons, and superphosphate and 6 hundredweight (672 pounds) of nitrate raised it to 39 tons. The respective increases due to manuring on the four fertilized plats were, therefore, in round figures, 7, 14, 21, and 26 tons per acre, and, if the cost of the fertilizers be taken into account, the average cost of the increase in roots was less than 3s. (73 cents) per ton—considered a very cheap price to pay for mangolds in a season not especially favorable to their growth. The board of agriculture estimates the mangold crop of the country for 1904 at 18½ tons per acre. The yield of the best plat referred to, 39 tons per acre, was therefore double the average.

An experimental oat crop followed a crop of roots. Without manure the yield was 27 bushels of oats and 17 hundredweight (1,904

pounds) of straw per acre. With 3 hundredweight (336 pounds) of superphosphate per acre, the yield was 34 bushels of oats and 21 hundredweight (2,350 pounds) of straw, and with superphosphate and 1 hundredweight (112 pounds) of nitrate of soda per acre, 41 bushels of oats and 24 hundredweight (2,688 pounds) of straw; while superphosphate with 2 hundredweight (224 pounds) of nitrate, applied in two dressings, gave 47 bushels of oats and 28 hundredweight (3,136 pounds) of straw. In each case the increase in grain and straw is taken as worth, roughly, twice the cost of the fertilizers employed in producing it.

The board of agriculture estimates of a normal oat crop indicate that the yield of 47 bushels per acre is at least 10 bushels beyond the average from ordinary soil.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 31, 1905.*

PRESERVED MEATS IN FRANCE.

(*From United States Commercial Agent Griffin, Limoges, France.*)

The market for preserved meats will probably be a growing one with a steady demand for such commodities. Animals raised for butchering are barely sufficient to supply the demand for fresh meats, and, except what is used in the charcuteries (pork butcheries), where smoked and fresh sausages and cooked meats, in the form of head-cheeses, pâtés, hams, tongues, gelatins, etc., are prepared, the supply of canned or salted meats practically comes from foreign countries.

Smoked hams, shoulders, bacon, salt pork, and lard are in good demand. The price of each of these articles is about one-half higher than that at which it is sold in the United States. Most of the smoked hams, bacon, and little pigs sold in France at the groceries bear American abattoir marks, although they pass under the name of "York." There seems to be quite a demand for shoats, weighing from 50 to 100 pounds, dressed, smoked, and uncut; these are sold in large quantities at Christmas time and in the spring before and after the lenten season. They are considered great delicacies and bring high prices.

Corned beef and pork and canned meats, such as may be used for army supplies, find a ready sale. The demand for preserved meats that may be used by the working classes and farmers is growing. It is noticeable that the diet of the working people consists more and more of meat, especially at the noon meal; this change is pronounced in large cities, where the people have left the country districts to work in factories.

WALTER T. GRIFFIN, *Commercial Agent*.

LIMOGES, FRANCE, *December 27, 1904.*

PERUVIAN GUANO DEPOSITS.

(From United States Consul Gottschalk, Callao, Peru.)

By a decree of December 28, 1904, persons convicted of digging guano between the months of February and November, inclusive, of any year shall be fined \$1.95 per ton of the product extracted, regardless of whether or not the vessel shall have been regularly dispatched by Peruvian port authorities. A repetition of the offense will render offenders liable to confiscation of their vessel, as prescribed by article 4 of the law of July 17, 1896.

The chief guano deposits of Peru are (1) the Lobos Islands (Lobos de Afuera and Lobos de Tierra) off the port of Eten, and (2) the Chincha Islands, off the port of Pisco. There are numerous minor deposits, such as the rocky promontories and islets of Islay, near the port of Mollendo, etc. By a contract entered into in January, 1890, the Peruvian corporation, a British syndicate, enjoys the exclusive right of exporting guano from the Peruvian deposits until 3,000,000 tons shall have been exported. Peru may continue to dig guano, but only for the purpose of benefiting national agriculture. It is said that about one-third of the 3,000,000 tons have already been exported by the Peruvian corporation.

A. L. M. GOTTSCHALK, *Consul*.

CALLAO, PERU, *January 4, 1905.*

MERCANTILE COURTS IN GERMANY.

(From United States Consul Harris, Mannheim, Germany.)

The recent establishment in Germany of mercantile courts (*Kaufmannsgerichte*), analogous to the industrial courts (*Gewerbegerichte*) in existence for some years past, forms an interesting extension of the judicial system of the Empire. These new courts, which are to form an integral part of the State judiciary, are created under a law of the Empire passed in July, 1904, which became operative January 1, 1905. They are designed to provide a prompt, inexpensive, and, as is supposed, an appropriate tribunal to decide questions arising between merchants and their employees or apprentices. The term merchant (*Kaufmann*) is used in a very broad sense to include practically all those engaged in trade as distinguished from manufacturing. It includes, indeed, the buying and selling departments of manufacturing concerns as well as railway undertakings, warehouses, transportation agents, gas and waterworks, banks, hotels and cafés, insurance societies, cab drivers, teamsters, mines, stone quarries, etc.

The mercantile courts are to have exclusive and original jurisdiction in practically all controversies arising between employer and employee in these branches of business, including disputes arising over wages,

the term of service, the wrongful discharge of employees, breaches of contract, surrender of bonds and other security for faithful performance of duty, invalid insurance, etc. The cause of action must in all cases grow out of the relation of employer and employee, and does not extend to disputes arising between the parties but not connected with the employment. Furthermore, the law does not apply to employees receiving a yearly salary of more than 5,000 marks (\$1,190) nor to employees in drug stores. It relates to civil proceedings only.

The law creating the courts provides that one shall be established in each city of over 20,000 population, and that such a court may be established in a district including several towns or villages having collectively a population to exceed 20,000. The number of members of the court and the term of office, which must be at least one year and not more than six years, is left in part to the law-making power of each of the separate States of the Empire. The court is to consist of a presiding officer with one substitute and at least four associate members. The number of associates is likely to depend somewhat on the extent and variety of the industries in a given district. Thus, in the city of Mannheim the associate members consist of 24 merchants and 24 employees, representing a considerable number of different branches of business. Selections will be made from these for each hearing, depending somewhat on the nature of the controversy.

The presiding officer and his substitute are elected by the city council or by several city and village councils within the district. The appointees shall have the qualifications required for appointment as judges, except as this requirement may be waived by consent in special cases by the State minister of internal affairs, or other proper authority. A merchant or mercantile employee is not eligible to election as presiding officer or substitute. The associate members of the court shall be selected from merchants (the term being used in its broad sense as above explained) and from employees of merchants, one-half from each class. They shall be at least 30 years of age and shall be elected respectively by secret ballot of employers and employees, no one having the right to vote who has not reached the age of 25 years. Males only are permitted to vote or to be members of the court.

In the trial of cases parties may appear in person, or in some cases by duly authorized agents. The trials are to be conducted informally, lawyers not being permitted to take any part, on the alleged ground of the lessening of expense to the parties; thus making the court alike accessible to the clerk or apprentice and his employer.

Provision is made for the compulsory attendance of witnesses, including experts, and for the taking of the testimony of witnesses who for any cause are unable to attend hearings. Special efforts are expected to be made to secure compromises before or during hearings. While cases may in most instances be heard before a part of the court, in all cases the presiding officer or his substitute must be present; and of

the associates present an equal number must come from the employer and employee classes.

Informal pleadings must be filed in each case. The complaint must show the names of the parties, in what the controversy consists, the kind of proof that will be offered, the relief prayed for, etc. The court is provided with a clerk, and a record of each case is required to be kept, including the decision rendered. Judgments are enforced as in other courts. Appeals may be taken to the regular provincial courts when the amount in controversy exceeds 300 marks (\$71.40). Cases may in some instances be reviewed on error by the other courts without reference to the amount involved.

The expense of maintaining the courts is borne by the city or district in which the court is established, so far as the costs collected from litigants are insufficient to meet the expense. Costs charged to the parties are small, and depend alone on the amount involved in the controversy. Thus, when the amount involved does not exceed 20 marks (\$4.76), the costs are but 1 mark (23.8 cents). When the amount involved is from 20 to 50 marks (\$4.76 to \$11.90), the costs are 1.50 marks (36 cents). From 50 to 100 marks (\$11.90 to \$23.80), the costs are 3 marks (71 cents). The maximum charge for costs is 30 marks (\$7.14), however much may be involved in the controversy.

Further provision is made for the court to act as a board of arbitration in controversies arising between employers and employees, and for the rendering of opinions on cases submitted to them by the State or Imperial authorities, or by the local courts.

H. W. HARRIS, *Consul*.

MANNHEIM, GERMANY, *January 24, 1905.*

AMERICAN TRADE WITH GREECE.

(From United States Minister Jackson, Athens, Greece.)

The establishment of a permanent exhibition of American articles, machines, tools, etc., in Athens is proposed. This matter was first thought of a year or two ago, when it seemed probable that there might soon be a Russian line between Odessa and New York, the steamers of which would call at the Piræus. The war has made the organization of the latter problematical, and in the meantime the German line (Deutsche Levant Linie) has discontinued its direct service between the United States and Greece. This line was never operated at a profit, so I understand, but it is my opinion that no real effort was made to make it a success.

Quantities of American merchandise are imported into Greece by way of Germany, and it has been noticed that many articles are apt to lose their nationality and are made to appear as of German origin. Articles imported directly from the United States will be entered at the

custom-house as of American origin, while those imported indirectly are frequently considered as having the same nationality as the steamer in which they are brought, and it is natural for each country to wish to increase the amount of its imports into Greece, even if more apparent than real. I have been told that at the custom-house at the Piræus no especial record is kept of articles imported from the United States, such as are considered of American origin being classed as from "other countries" whose trade is not considered of sufficient importance to be entitled to a special column.

So much has been written, and so much has been printed in our consular reports, in regard to the indifference of American manufacturers and merchants to our export trade, without its producing any effect, that it seems almost a waste of time to refer to the matter again. Apparently, as said by Consul-General Mason in a recent report from Berlin, "they regard foreign markets only as a convenient outlet for their surplus products in time of overproduction." Without a competent and intelligent agent on the spot, American manufacturers can not hope to compete with those of other countries, and the few who have desirable agents are rarely willing to sell their goods on terms usual in this part of the world. Although local commission agents seldom exert themselves in advancing the interests of the firms they represent, I feel confident that the establishing of a permanent exhibition, as proposed, will be of advantage to American trade. Manufacturers should take the matter up carefully, however, and should assure themselves of the reliability of the parties to whom they intrust their goods, and measures should be taken to prevent the sale of articles by persons not financially responsible to the exhibitors.

JOHN B. JACKSON, *Minister.*

ATHENS, GREECE, *January 30, 1905.*

Trade of the United States with Greece in the years 1865-1904. a

Year ended June 30—	Imports from Greece.	Exports to Greece.	Year ended June 30—	Imports from ¹ Greece.	Exports to Greece.
1865.....	\$87,751	.....	1885.....	\$596,707	\$207,822
1866.....	83,765	.....	1886.....	730,823	144,003
1867.....	184,783	.....	1887.....	998,243	171,497
1868.....	128,925	.....	1888.....	1,262,519	174,411
1869.....	188,431	.....	1889.....	988,923	165,079
1870.....	80,001	.....	1890.....	1,125,098	167,282
1871.....	298,335	\$83,101	1891.....	1,378,333	159,445
1872.....	307,761	71,700	1892.....	1,300,449	100,350
1873.....	413,604	51,379	1893.....	1,283,567	130,461
1874.....	484,168	82,668	1894.....	797,281	124,449
1875.....	465,290	22,900	1895.....	327,201	132,344
1876.....	560,411	143,235	1896.....	720,386	191,046
1877.....	623,128	196,628	1897.....	732,702	110,765
1878.....	276,445	b4,890,326	1898.....	910,390	127,539
1879.....	409,328	236,019	1899.....	944,621	213,367
1880.....	461,379	145,572	1900.....	1,122,866	290,708
1881.....	550,638	142,042	1901.....	1,124,775	291,538
1882.....	899,561	349,467	1902.....	1,563,142	305,860
1883.....	1,231,580	91,017	1903.....	1,326,935	338,544
1884.....	1,039,984	186,485	1904.....	1,588,946	242,229

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

^b Principally firearms.

IMPROVED PORT FACILITIES AT CALLAO.

(From United States Consul Gottschalk, Callao, Peru.)

On January 1, 1905, a new form of agreement was signed between the Government of Peru and a French syndicate, la Société Générale de Paris, which has for some years past been operating at Callao under the name of the Empresa del Muelle y Dársena del Callao (Dock and Breakwater Enterprise). In 1887 this syndicate constructed the present very handsome system of stone docks and appurtenances at Callao, and was given a concession by the Government whereby it possessed the exclusive monopoly of loading and discharging vessels at this port, rights to landed property about the water front, etc. In return for these and other valuable considerations the docks were at the close of a certain number of years to become the property of the State.

The inauguration of this syndicate's work is often quoted as having marked the beginning of the decline of Callao as a shipping port. Two very important steamship lines, one Chilean the other British (the Compañía Sud Americana de Vapores and the Pacific Steam Navigation Company), promptly removed their headquarters from Callao to the Chilean port of Valparaiso, where they were subjected to much less onerous restrictions, and the prices of all imported commodities in Lima and Callao began to rise, by reason of the many and various charges for anchorage, wharfage, cartage, etc., charged by the Empresa del Muelle y Dársena. As is usual in these countries, where indirect taxation is the rule, i. e., where the merchant or middleman is made the collector of the national revenue, the greed of the mercantile element probably caused the retail prices of imported commodities to rise out of all proportion to the actual increase in charges caused by the docking enterprise.

By the terms of the new contract with the Empresa del Muelle y Dársena del Callao the Government of Peru waives its rights to proprietorship of the docks and their appurtenances after the stipulated term of years. They are to remain the property of the Empresa for an indefinite period, but, in turn, the public is benefited as follows:

1. The exclusive monopoly hitherto enjoyed by the Empresa del Muelle y Dársena as to loading and discharging vessels at Callao is removed.

2. Ships and merchandise entering the port are freed from imposts of 20, 12, and 10 centavos Peruvian silver (4, 2.4, and 2 cents United States currency) per ton, formerly charged to reimburse the Empresa for certain cash loans made in the past.

3. The Société Générale de Paris waives all claim now and forever to certain balances still due on the following loans: April, 1885, \$243,500; October, 1885, \$365,250; May, 1887, \$121,750.

4. The Government of Peru admits the right of Muelle y Dársena enterprise to own the docks, buildings, etc., which it has erected with its own capital; and also its right to operate the same, but without

monopoly or privilege of any sort. It also confirms the syndicate's rights to certain pieces of real estate.

5. The Empresa del Muelle y Dársena agrees to begin, one year from date of contract, the work of enlarging the present docks along the unfinished sea wall known as the Malecón Grau. The latter has long been lying unfinished, and its completion will greatly improve the appearance of the Callao water front.

It is generally felt that this new contract will in the course of time attract maritime enterprises of magnitude to this port. There has been some talk at different times of lines to the Orient from this coast by projectors who have never considered Callao as a terminal, chiefly, I believe, because of the former Dársena contract.

A. L. M. GOTTSCHALK, *Consul.*

CALLAO, PERU, *January 5, 1905.*

HOW TO TRANSACT BUSINESS WITH PARAGUAY.

(*From United States Vice-Consul De Korab, Asuncion, Paraguay.*)

Keep in mind that Spanish is the language of this country and not English. Prepare catalogues, price lists, etc., in Spanish and correspond in Spanish.

Prepare trade offers carefully, with a view to making them easily understood and easily accessible. Booklets of the size of the Consular Reports, or smaller, are better than fancy-sized sheets, etc. The headings or title pages must state clearly what you offer. People here are not up to American catchy headings, and their interest is not aroused if they read, for instance: "The New Style," "The Invincible," or "Illustrated Trade Catalogue of John Jones Manufacturing Company." Instead of this tell them on the title page you want to sell "brushes," "wire," or "Jones's plows." Give "introductions," history of establishments, and such, on succeeding pages, not at the beginning. The chief reason for all this is that this climate is not suitable for much work, and people do not care to read more than is actually necessary. They must be caught at once or they will leave the matter for "mañana" (to-morrow), and forget about it.

I have often heard this: "Yes, your people strive hard, in recent times, to introduce American goods into Paraguay. They send catalogues and letters by the heap, and if one does not answer they write again and again. But it is of little use, because we want to see the goods and judge for ourselves." Another reason is "no credit," whereas German, French, and British houses offer credit. A German house recently gave a credit of two years on a certain article which they wanted to introduce. All these objections can be obviated by sending a representative and establishing a sample deposit here or a

warehouse. Local agents are of no avail. Several of our exporting houses, dealing in different kinds of goods, could unite to advantage in their service here, where rent and costs of living are cheap.

WALDEMAR C. DE KORAB, *Vice-Consul.*

ASUNCION, PARAGUAY, *December 26, 1904.*

AMERICAN INTERESTS IN COSTA RICA.

(*From United States Minister Merry, San José, Costa Rica.*)

In accordance with an arrangement just made at London, the Northern Railroad of Costa Rica, an American corporation, of which Minor C. Keith is president, will take possession of the Costa Rica Railway Company, an English corporation, on July 1, 1905, and both companies will be operated under one management. The Northern Railroad Company was organized and constructed by the United Fruit Company, an American corporation, with headquarters at Boston, to facilitate transportation through its large realty in eastern Costa Rica. The new arrangement will be a decided advantage to both corporations, decreasing the cost of operation and developing the interests of the territory through which the roads are constructed. It will tend to advance American interests, investments, and commerce in Costa Rica. Under the new management the commercial and industrial condition of the Republic will be undoubtedly benefited. The change places the interests of American citizens in Costa Rica in a condition of priority which can not be successfully contested.

WILLIAM LAWRENCE MERRY, *Minister.*

SAN JOSÉ, COSTA RICA, *January 11, 1905.*

ADVERTISING IN SPANISH AMERICA.

(*From United States Consul Gottschalk, Callao, Peru.*)

The immense amount of advertising matter from the United States received at our consulates has repeatedly called my attention to the fact that no other country spends so much money in an often fruitless effort to attract the public attention abroad. I am in receipt, week by week and steamer by steamer, of requests from manufacturers and merchants in the United States, varying from a polite invitation to address and mail to people in Peru circulars inclosed by the writer, or an equally courteous demand that I shall "hand this letter and price list to some one interested," to an appeal for lists of "all the exporters and importers of the country I am accredited to, with a few remarks as to their business standing."

It is needless to expatiate upon the futility of such methods. To begin with, as the printed matter is almost invariably in the English language, it is certain to convey absolutely no information to the addressees. Often it is not even illustrated.

Some years' experience and more or less close contact with trade in Spanish-American countries have led me to believe that the advertising of American goods, wherever it is successfully carried on, has been accomplished by the gift of small trinkets, or by pictorial methods—picture cards, fancy booklets, plaques, chromos, and particularly by illustrated almanacs and calendars, all highly colored; also by posters of the latter class. Military and naval subjects, and portraits of popular actresses, all highly colored, seem invariably to be found most attractive. I can remember numberless instances where, in the interior of Porto Rico and Cuba, prior to the war of 1898, in the Artibonite, Haiti; in the port of Santa Marta, Colombia; in the hill country of Nicaragua, several days' horseback journey from the seashore, etc., I have been greeted by the sight of a patent penknife or corkscrew sent with some firm's compliments; or was referred to some almanac printed in Spanish and devoted one-third to information and two-thirds to lauding so and so's bitters or emulsion or chill cure; or was confronted by a familiar highly colored poster which had attracted the eye and had been treasured as a wall ornament. These things had evidently fulfilled their purpose.

If merchants at home were to bear this in mind much useless trouble and considerable expense could be saved them. To be sure there are many countries in Spanish America where advertising with trinkets offers obstacles—customs duties, often chargeable by gross weight or specific duties of high value, proving a great bar. But with printed matter the same objection does not hold good, such being almost invariably duty free. The desideratum is to find a pattern which will catch the eye and please the popular taste, as well as prove intelligible to those not schooled in the English language—something which shall be preserved and not simply tossed aside.

Considering the fad for collecting pictorial postal cards which at present exists and for some years past has existed in Spanish America as well as in Europe, I have often wondered that some enterprising firm in the United States has not seized upon this valuable medium for advertising its wares. A number of prominent hotels and business houses in Spanish America have already done so; and their advertisements, gotten up usually in the form of street scenes (showing incidentally their own establishment adorned with a prominent signboard) printed on the back of ordinary postal cards, are treasured in the albums of many families. There is here an opportunity for our hotels, railroads, and steamship lines (all heavy advertisers), as well as for

numberless other branches of trade, to gain an entry before a new public. The work need not be expensive, as the mere reprinting of the cuts used in the advertising supplements of our prominent magazines would, I am sure, prove attractive enough, although the printing of such matter in colors would be more effective.

A. L. M. GOTTSCHALK, *Consul*.

CALLAO, PERU, *January 16, 1905.*

AUTOMOBILES AND PRICES OF HORSES IN GREAT BRITAIN.

(From United States Consul Mahin, Nottingham, England.)

The old-time prediction that the railways would seal the fate of the horse was changed so that automobiles were to displace that animal when the motors began to be used in this country. Horses, however, are now dearer than before the coming of the automobile, especially carriage horses, the kind that one would expect to be most affected.

The fact seems to be that automobiles have created a new school of travel. Many people who use them did not keep horses, and people using them who did keep horses—wealthy country families, for instance—still retain their horses for emergencies. In point of fact, it is believed that the automobiles will affect only the railways in their receipts from passenger fares.

The use of motor omnibuses, vans, etc., which has begun in this country, and is likely to become general, will displace many horses; but well-informed persons express the belief that the displaced horses will be absorbed by the increasing number in use in other lines of business. It would seem that the natural increase would supply the latter demand, but this is denied. It is stated that nearly all the horses needed could once be bought in this country, but that English farmers have generally ceased breeding them, and even the importation has declined. A large buyer of horses says on this point: "Lately we have had to go to America, and it has now become no easy thing to buy horses there. The Americans are to-day paying almost as much for their horses as we used to pay for them when shipped across here. American dealers, of course, are not going to pay the cost of shipment when they can get good prices at home."

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 26, 1905.*

WINDMILLS FOR SOUTH AFRICA.

(From United States Consul Monaghan, Chemnitz, Germany.)

Owing to the continued dry seasons in South Africa, which have caused the destruction of large droves of cattle, a large demand for pumps and windmills has sprung up. The sinking of wells has become a pronounced necessity. Even the government boring machines have been called into use to supply cattle with the necessary quantity of water to sustain life.

Two kinds of motors are salable, a light one for pumping water for cattle and a heavier one to pump for irrigation purposes. Of the first kind there is a great variety on the market at Cape Town. The main points considered in purchasing such motors are lightness combined with great capacity, facility of removal from one place to another, and ability to be set in motion by the lightest breeze. Windmills answering these conditions are at the present time very scarce. It is conceded that the American-built windmills are by far the best. German and Austrian manufacturers, however, are doing all in their power to get control of the South African market. It behooves our manufacturers, therefore, to give strict attention to this market if they wish to hold it. Care should be given to the packing and shipment of goods. Duplicate parts must be at hand so that broken machinery can be repaired at short notice. This is a point to which German manufacturers give special attention.

It is necessary for our manufacturers to be up and doing; otherwise the Germans and Austrians will be making disastrous inroads into the South African market in the lines mentioned.

J. F. MONAGHAN, *Consul*.

CHEMNITZ, GERMANY, *January 20, 1905.*

NEW WOOD-SEASONING PROCESS.

(From United States Consul Atwell, Roubaix, France.)

In these days of rapid construction, when tenants of houses built for quick sale find repairs of woodwork a heavy yearly burden, it will be reassuring to learn that extended time is no longer required to place well-seasoned wood on the market. As musical instruments in which wood is used must have it well seasoned, necessity ordinarily compels manufacturers to wait at least six years after timber is cut before using it. The wood is left in the open air for a period of four years and then subjected to dry heat in a drying room for an additional two years.

It is claimed that the process invented by Mr. Powell, an Englishman, gives artificial age to wood. He replaces the sap of trees by beet sugar or saccharine, which acts as a preservative of the wood by

driving the natural humidity from the fibers. The following is the method employed: Newly felled wood is laid on a wagonette, which is rolled into a huge cylinder, the interior of which is provided with pipes. Either hot or cold water, as occasion requires, may be introduced into these pipes. The wood having been placed in the cylinder, the latter is supplied with sugar or saccharine. Hot water is then forced through the pipes. The contact of the heat boils the sugar, which penetrates the pores of the wood. The cooling process is accomplished by a current of cold water forced through the pipes. The cylinder is emptied of the sugar or saccharine, and the wagonette, with its burden of wood, is rolled into a special room, where it is dried by currents of hot air. After being cooled again, the wood, properly seasoned by the sugar, is ready for use. It is said not to spring or gather dampness, and to be proof against destruction by insects. This point may be considered an important one in view of the use of lumber in our newly acquired territory, where insects play such havoc with wood structures.

W. P. ATWELL, *Consul*.

ROUBAIX, FRANCE, *January 27, 1905.*

CULTIVATION OF HORSE-RADISH IN BAVARIA.

(*From United States Consul Bardel, Bamberg, Germany.*)

The village of Baiersdorf, which has the reputation of raising the finest horse-radish in Europe, is about 22 miles south of Bamberg, on the line of railroad to Nuremberg. Horse-radish is cultivated almost exclusively on about 1,335 acres of the moist grounds of the valley of the river Regnitz. The average yearly yield amounts to about 55,000 hundredweight (6,050,000 pounds), which represents a value of \$120,000. Most of the product is exported to Austria, the Netherlands, Switzerland, and France. It is packed in heavy barrels, containing about 1,000 roots each, and the price varies from 2½ to 4 cents a pound.

The land, after being thoroughly fertilized, is plowed over to form beds about 30 inches wide. Roots for planting are dug in March from the previous crop and are kept in moist sand until they commence to sprout. They are sold at 25 cents a hundred. A crooked stick of wood, covered with iron, and about 20 inches long, is used for setting the roots. The distance between rows is 16 to 20 inches, and between plants from 8 to 10 inches. Before planting, the little fibers attached to the main root should be taken off by hand or by rubbing with a soft rag. After an opening is made by the planting stick, the roots are set obliquely in the beds, and the soil well pressed on. Soon after shoots will form, all of which, except the strongest, should be

taken off. The ground should be loosened by hoeing and weeds destroyed. From about the end of June to the middle of July, on cloudy days, the soil should be uncovered from the stem and the side roots rubbed off with soft rags. Care must be taken that the lower roots, which nourish the main root, be not injured or broken off. In heavy soil this uncovering is necessary but once; in lighter soil it should be repeated about four weeks later. After the little fibers have been removed, the soil should be again pressed on the roots, and the beds should be watered well—if possible by rain water or light liquid manure. Between the end of August and the middle of September the stalks are cut off by means of a sickle-like knife, and the end roots remain in the ground until the following March to serve as plants for the next crop.

If a change of crop is contemplated for a horse-radish field, good care must be taken to remove all the roots carefully, for every fiber remaining will again sprout. Stable manure is used mostly for fertilizing, but some farmers have utilized artificial manure with very good results.

WM. BARDEL, *Consul*.

BAMBERG, GERMANY, *January 19, 1905.*

CARTS, WAGONS, AND TRUCKS IN VERACRUZ.

(*From United States Consul Canada, Veracruz, Mexico.*)

The city council of Veracruz, with the approval of the state government, has just passed an ordinance heavily taxing vehicles in use here, principally carts, wagons, and tracks. Taxes of \$15 on 4-wheeled vehicles, \$12 on 2-wheelers, and \$6 on light carts are to be paid in advance every two months. Similar vehicles, with bodies resting upon springs, are to be taxed one-half the amounts mentioned. Push carts are exempted.

At first sight this ordinance would seem to be a rather harsh measure, but it is evidently the intention of the city government to force out of service all the antiquated, heavy, and ungainly vehicles in use at present, and compel the adoption of a lighter or modern conveyance, in view of the fact that the city is to be repaved, probably with asphalt, work to commence about next October.

Here is an opportunity not to be neglected by our manufacturers. The import duties on all kinds of vehicles used for transportation of merchandise when the weight does not exceed 200 kilograms (440 pounds) is at the rate of 20 cents for each net kilogram (2.20 pounds). When the net weight exceeds that figure, the duty will be for the first 200 kilograms, as indicated above, and for the excess weight, 5 cents per kilogram additional. The duty on pleasure vehicles of all kinds is much greater, ranging from 40 to 60 cents per kilogram, net weight.

As the ordinance also designates the width of the tires and running gear to be used, it will be necessary for manufacturers to inform themselves upon this point, and I suggest they place themselves in communication with one of the following importing hardware houses here: Sommer, Herrmann & Co.; M. During & Co., Sucs. or Ramon Varela e hijo, who might accept an agency, or afford the manufacturer an opportunity to exhibit samples that would serve to show the people what is to be had in the line of carts, wagons, and trucks, as our styles are but little known in this vicinity.

W. W. CANADA, *Consul.*

VERACRUZ, MEXICO, *February 1, 1905.*

COATICOOK MUNICIPAL ELECTRIC LIGHT.

(From *United States Consul Hale, Coaticook, Quebec.*)

On October 1, 1903, the municipality of Coaticook, having a population of about 3,500, came into possession of the electric-light plant, previously operated by a private company. The sum paid was \$36,000, the corporation issuing 4 per cent debentures to that amount, which were sold at very nearly par. The power used is derived from two dams a short distance apart, on the Coaticook River, as its descent is very great. The horsepower thus developed is about 400, capable of carrying over 4,000 16-candlepower lights. The full capacity has not thus far been utilized, but an additional dynamo is soon to be installed, so that all the power can be used to meet the growing demand.

A very severe drought in the winter of 1903-4 and the somewhat experimental operation of the first year were unfavorable conditions for the new enterprise, yet the first fifteen months gave exceedingly satisfactory results. Apart from an unnecessary operating expense of \$500 the first year, which has now been remedied, a loss of \$800 on account of the drought, and improvements to the amount of over \$2,000, there was a cash surplus of \$1,000. With the plant in operation to its full capacity, and under ordinary conditions, it is expected that the municipality will have an annual income of over \$5,000 above expenses with which to meet repairs, pay interest on the debentures, and add to the surplus. There was great opposition to the purchase of the plant by the municipality, but it has been overcome by the quality of the service rendered and the excellent showing made for the first year's operation. Quite a revenue is derived from the use of electric power for motive purposes in stores, shops, and mills.

FRANKLIN D. HALE, *Consul.*

COATICOOK, QUEBEC, *February 7, 1905.*

REGULATIONS GOVERNING FOREIGN INSURANCE COMPANIES IN CHILE.

Under date of December 30, 1904, the United States secretary of legation at Santiago, Edward Wilson Ames, transmits the following translation of the regulations governing the application of the new Chilean law concerning foreign insurance companies in that Republic, which was promulgated on November 17, 1904, to go into effect six months from that date. On November 17, 1904, Mr. Ames transmitted a translation of the law itself (see Daily Consular Reports, No. 2162, for January 20, 1905), which is on file in the Bureau of Statistics, Department of Commerce and Labor.

Article 1. Foreign insurance companies desiring to establish agencies in Chile, or maintain those actually established, must, in accordance with the prescriptions of law, No. 1712, of November 19, 1904, present petitions to the ministry of the treasury requesting authority to establish themselves, accompanied by evidence that the companies are organized in accordance with the laws of the country of origin, and copies of last balance sheets and reports. In the petition each company shall also indicate to the Government the form in which it will constitute in Chile the guaranty referred to in article 2, clauses 2 and 5 of the said law. In view of these conditions, the President of the Republic may or may not grant the authorization requested. If he grants it he will classify the company as of the first or second class and stipulate the manner and form in which it must constitute its guaranty.

Article 2. The guaranty may be constituted in cash, in property situated in Chile, in bonds of the public foreign or domestic debt, or in bonds of the following mortgage establishments: Caja de Crédito Hipotecario, Banco Hipotecario de Chile, Garantizado de Valores Hipotecario, and others which the President of the Republic may declare acceptable. The valuation will be made in the month of March of each year by the President of the Republic. The values in currency will be valued in currency, and those in gold, in gold. For the constitution of the guaranties the paper dollar will be considered of the same value as the national gold dollar of 18 pence (36.5 cents).

Article 3. The deposits in money may be made in national gold, or sterling, or in currency, and must be made in the Government exchequer. The deposit will be accredited by the respective certificates which will be deposited in the treasury of the mint in Santiago, and said certificates shall express that the money has been deposited by the company mentioned therein in accordance with the provisions of law No. 1712, and that therefore it can not be withdrawn without the previous decree of the Supreme Government, and without being canceled by the agent of the company, the cashier of the mint, and the Government insurance inspector.

Article 4. Should the guaranty be constituted in bonds of the internal debt or in bonds of the Chilean mortgage banks, the bonds themselves must be deposited in the treasury of the mint where the company will receive for its protection a certificate stating the class, rate, and number of the bonds. The companies must present these certificates

to the Government insurance inspector so that he may take note of them in the special book of guaranties kept by him.

Article 5. Should the guaranty be constituted in bonds of the foreign debt of Chile, it will be sufficient that the bonds themselves be deposited in the treasury of the Chilean Government in London to the order of the company to which they belong and to that of the legation of Chile, the certificate specifying that this deposit has been made in compliance with law No. 1712, and that it can not be withdrawn without previous decree of the Supreme Government of Chile and cancellation by the agent or manager of the depositing company and the diplomatic minister of Chile. The interest corresponding to these bonds will be paid to the depositing company without the intervention of the Chilean legation. The values of the bonds which may be drawn for amortization will be delivered to the company to which they belong in exchange for a new deposit of bonds for an equal or larger sum, accepted by the Chilean legation. In the treasury of the mint of Santiago it will be sufficient to deposit these certificates of deposit, previously viséed and noted by the Government inspector of insurance.

Article 6. To constitute the guaranty in property the title deeds of the properties offered must be presented, along with proof of the two last municipal valuations, and a certificate stating that they are free of all mortgage and retention. Should the properties be city buildings, the insurance policies must be attached, with a declaration on them to the effect that the insurance will be considered in force, whether the premium has been paid or not, during the period which these properties may be serving as guaranty, and that in case of fire, the amount insured shall be deposited in the Government exchequer in the form prescribed in article 3 of this decree. In view of these conditions the President of the Republic will accept or not the property offered as guaranty. Should it be accepted by him the decree must be inscribed in the corresponding register of mortgages on property, in proof that said property is subject to the obligations contracted by the company in Chile, and that meanwhile it can not be sold or mortgaged, in accordance with the last clause of article 3 of law No. 1712. The respective municipal treasury will also take note, so that said property may be exempted from taxes, in accordance with article 3 of said law. A copy of the decree, noted in the Government inspection of insurances, will be deposited in the treasury of the mint along with the policies of insurance on the property.

Article 7. For every change, substitution, or cancellation of guaranty a decree of the President of the Republic will be necessary, after being passed on by the Government inspector of insurance. But the bonds that may be drawn for amortization in Chile may be substituted by others of a similar nature, without other authority than that of the Government inspector of insurance and the treasurer of the mint, and with respect to the amortization of bonds of the foreign debt the procedure will be that indicated in article 5, viséed also by the Government inspector of insurance and delivering to the treasurer of the mint the certificates of deposit corresponding to the new bonds.

RAILWAY DISCRIMINATION IN CANADA.

(From United States Consul Worman, Three Rivers, Quebec.)

An investigation of the differentiation in freight tariff afforded to its shippers by the Grand Trunk Railroad is proceeding before the court of arbitration on complaint of the Intercolonial Railway. The Intercolonial company claims differences in tariff and that the Grand Trunk Railroad discriminates in favor of Portland, Me., the American port of entry, to the disadvantage of the ports of the Dominion.

The newspaper organs of the Conservatives are most energetic in their protests and take occasion to make war again on the new railway project. They deprecate not only the successful inauguration of the Grand Trunk Railway, assured by the return to power of the Liberal government, but particularly the fact that Portland, Me., is to be so greatly benefited as a port by its connection with that international railway enterprise.

The fact that American papers of New York, Boston, and, especially, of Portland, are jubilant over this prospective betterment of conditions at the great port of Maine has by no means lessened the spirit of opposition to the whole enterprise in the Dominion. One of the Montreal papers, quoting a correspondent of the Bangor Commercial, states that "this year will be without precedent in the quantity of business done at Portland, both in exports and imports." Four additional boats have been called into requisition each week to carry off the quantity of cattle, sheep, grain, and apples; and the Grand Trunk Railway has been crowded with cars bearing large quantities of inter-oceanic freight, while at Halifax everything is dull and the grain elevators inactive.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *January 31, 1905.*

TRADE OPPORTUNITIES IN FOREIGN COUNTRIES.

(From United States Consul-General Guenther, Frankfort, Germany.)

ELECTRICAL SUPPLIES.

Belgium.—An extensive electric-power station is to be erected at Saventhem.

Portugal.—The Companhia das Minas de Estanho e Wolfram da Borralha, Districto de Villa Real, has planned the erection of electric works for lighting and power. The Companhia Electrica de Portugal has projected the furnishing of electric lighting for the town of Castella Branco.

BRIDGES, DOCKS, SEWERAGE, WATERWORKS, AND HARBORS.

Argentina.—The River Plata Floating Dock Company has been formed in Buenos Aires for the purpose of erecting floating docks in that city.

Germany.—The city of Nuremberg intends making a loan of \$2,000,000 to extend its waterworks.

India.—The director-general of stores, India office, Whitehall, London, S. W., will receive bids for the construction of a bridge across the Khushalgarh, India, to have two spans of 471 and 303 feet.

Italy.—The city of Syracuse is to have waterworks.

Mexico.—The City of Mexico has contracted for sewerage works and pipe laying to cost \$600,000; the parties executing the work are Enrique Fernandez, Castello and Leandro F. Payro.

Portugal.—Harbor works and improved machinery for loading are to be established in Lisbon. Apply to Direccao Geral de Obras Publicas e Minas, Lisbon.

FACTORIES, MILLS, ETC.

Java.—A number of sugar-cane factories and refineries in Java are planned to be built by capitalists. Apply to C. Kraay, Amsterdam, Netherlands.

Mexico.—Luis Garcia Teruel has received from the Mexican Government a concession to erect rolling mills in the State of Oaxaca. All requisite building materials and machinery may be imported duty free.

Netherlands.—The municipality of Amsterdam plans the erection of an anatomical laboratory on the most improved style.

RAILWAYS AND TRAMWAYS.

Belgium.—A railroad line is to be constructed from Bouillon to Cordon.

Germany.—The government of Hamburg has, by treaty with Prussia, agreed to the construction of a rapid transit electrical trunk-line railroad from Blankenese to Ohldorf.

Java.—A tramway line will be built from Rodjoso to Winaugan. Apply to "Nederlandsche Handels-Maatschappij," Pasoeroean, Java.

Mexico.—Concessions have been granted for the construction of the following railroad lines: (1) To Pablo Martinez del Campo, City of Mexico, a narrow-gauge line in the city. (2) To General Augustin Pradillo, a line from Ciudad de Zitacuaro to Joconusco; office in the City of Mexico.

Netherlands.—The Amsterdam and Rotterdam Railroad Company (head office in Amsterdam) purposes to negotiate a loan of \$10,000,000, to be expended for new cars and extending the line.

A steam railway line is projected to run from Almelo to Ootmarsum and Denekamp. Apply to Ledebor & Co., Almelo.

Russia.—The British commercial agent in Russia reports that the laying of a second track on the Trans-Baikal line of the Siberian Railroad will require over 49,000 tons of steel rails, costing about \$1,750,000.

Spain.—A new electric tramway line is to be constructed in the city of Saragossa.

South Africa.—According to Suedafricanische Wochenschrift, the Central South African Railway is to change from steam to electric traction. The annual saving thereby is estimated at \$250,000.

Switzerland.—Engineer van Erlach, in Spietz, has obtained a permit to build an electric railroad from Interlaken to Merligen. Another electric tramway is planned for that town, concerning which Regety & Co., Spietz, can give information.

The firm of Bebie-Heft, Linthal, is to build an electric cable line from that town to Braunwald.

Another cable railroad will be built from Muattas to Muraigl, Upper Engadine.

For details, apply to engineer Englert-Faber, Basle.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 7, 1905.*

BRITISH COOPERATIVE DISAPPOINTMENT.

(From United States Consul Mahin, Nottingham, England.)

A report from this consulate September 29, 1904, printed in Daily Consular Reports, No. 2101, November 7, 1904, referred to a cooperative experiment in slate quarrying in Wales, assisted by contributions from labor organizations all over the country, and intently watched by mining and industrial interests generally, as its success might revolutionize present methods of conducting large enterprises. The latest reports from Wales state that the hands employed at the cooperative quarry have been gradually dismissed till now but three-fifths of the total number originally engaged are at work.

The outlook for the undertaking is very gloomy. No interest has been paid to the shareholders. The entire capital, amounting to about \$126,000, was subscribed by cooperative societies and trades unions, and has been exhausted in acquiring and developing the three quarries belonging to the society. There is no money on hand to proceed further, and, worse still, appeals to the trades unions and cooperative societies for more capital meet with no response. Unless money is forthcoming very soon the undertaking will fall to pieces. As a result, cooperation in large industrial enterprises has had a material setback.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 30, 1905.*

CAMELS IN ARABIA.

(From United States Consul Masterson, Aden, Arabia.)

It would be hard for a person living in any other city in the world to conceive just what an indispensable animal the camel is to the prosperity and welfare of Aden and this part of Arabia. Even in the ordinary work done by a horse in any other place or country the camel is always used here; in fact, except for drawing a carriage, it completely takes the place of the horse. The camel is used for hauling produce in carts, for carrying freight and other articles, and for drawing the sprinkling and water carts. It makes a comfortable riding animal, and at a feast its flesh, of all meats, is considered the best. But it is as a means of transportation and as a beast of burden in passing to and from the interior of Arabia to Aden that it becomes indispensable, and it is altogether probable that without it Aden would have never become the great distributing point it now is. Articles shipped from here to points across the Gulf of Aden are also transported by camels into the interior of the African Continent.

The amount of the burden varies according to the distance to be carried and to the size of the animal. In carrying goods to and from the wharves to the different warehouses, a few miles, a camel will carry a load of from 600 to 900 pounds, but for a long journey from one-third to one-half of this amount is considered a camel load.

An account is strictly kept of every pound of merchandise imported into or exported from Aden, subdivided into "inland trade" and "sea-borne trade." In the inland trade an account is kept of every article, divided into camel loads, as it comes and goes through the barrier gate at the city, together with its value. In order to give an idea of how far the camel figures in this trade, I submit the following table of the inland import trade alone, showing how many camel loads come into Aden:

Amount of inland-trade goods brought by camels into Aden, Arabia, annually.

Articles.	Number of camel loads, 1902-3.	Number of camel loads, 1903-4.
Coffee.....	6,428	4,720
Fodder.....	79,380	76,022
Grain.....	17,542	2,860
Fruits and vegetables, fresh.....	14,901	9,917
Wood and charcoal.....	84,995	74,902
Water in carts.....	58,400	58,400
Miscellaneous.....	14,570	12,292
Total.....	276,166	239,113
Average per month.....	23,014	19,926
Average per day.....	767	664

The number of camel loads given is for the import trade only, no record being kept of the number of loads for the export trade, but at least as many are used for the outgoing as for the incoming trade.

W. W. MASTERSON, *Consul*.

ADEN, ARABIA, *January 25, 1905.*

NATIONAL SAVINGS BANK OF FRANCE.

(*From United States Consul-General Skinner, Marseille, France.*)

The report to the President of the operations of the National Savings Bank of France (Caisse Nationale d'Epargne) for 1903 has just made its appearance. The branches of this institution are to be found at every post-office in the Republic. The most interesting figures follow:

RECEIPTS, EXPENSES, AND CREDITS.

In 1903 the deposits (3,445,147 in number) were \$83,900,535, the withdrawals (1,952,136 in number) were \$86,976,870; excess of withdrawals, \$3,076,335.

On January 31, 1902, the net amount to credit of depositors was \$213,603,320. Deducting from this the excess of withdrawals in 1903, \$3,076,335, left a balance of \$210,526,986, to which interest was added of \$5,239,308, and there was a net balance due depositors of \$215,766,294. Assets belonging to the institution, apart from assets otherwise accounted for as its personal fortune, amounting to \$6,970,330, were added, making the grand total assets \$222,736,624.

STATEMENT OF ACCOUNTS.

Average deposits, amounts due depositors, number of accounts opened, and average credit of each account of the National Savings Bank of France, 1882 to 1903.

Year.	Average of deposits.	Amount due depositors December 31.	Number of open accounts.	Average credit of each account December 31.
1882	\$26.37	\$9,187,116	211,580	\$43.41
1883	20.26	14,944,262	375,838	39.76
1884	19.90	22,272,592	526,889	41.15
1885	20.95	29,752,025	670,714	42.86
1886	21.48	36,800,106	816,185	43.55
1887	21.43	43,139,224	960,729	44.04
1888	22.50	51,440,206	1,101,116	45.56
1889	22.57	64,067,373	1,272,875	49.25
1890	26.32	79,793,736	1,475,820	53.64
1891	28.16	97,731,226	1,694,356	56.36
1892	30.00	118,958,141	1,934,284	60.25
1893	27.72	117,883,226	2,050,063	56.41
1894	28.70	133,340,700	2,251,193	59.47
1895	27.86	145,417,494	2,457,467	60.45
1896	24.49	151,496,389	2,652,564	56.47
1897	24.03	162,932,085	2,851,002	56.36
1898	23.22	168,879,127	3,073,737	54.72
1899	23.14	179,384,676	3,319,339	54.07
1900	24.00	194,980,796	3,565,941	54.60
1901	24.42	208,515,240	3,805,881	55.22
1902	24.26	213,608,320	3,991,412	53.52
1903	24.34	215,766,294	4,143,888	52.07

It should be understood that the amount upon which individual depositors are permitted to draw interest is limited to \$289.50. When that sum is exceeded depositors find other methods of investing their savings.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *January 26, 1905.*

EFFECTS OF PREFERENTIAL TARIFFS IN CANADA.

(*From United States Commercial Agent Shotts, Sault Ste. Marie, Ontario.*)

The Canadian Manufacturer and Industrial World is, perhaps, the widest circulated and most important industrial paper of Canada, and generally indorses the views of the Canadian Manufacturers' Association. Referring to the preferential tariff granted to Great Britain by the Dominion of Canada, in its issue of February 3 it has this to say:

It should be borne in mind that the preferential tariff came into full effect in the fiscal year ended June 30, 1898, under which a rebate of 33 per cent was allowed from the general tariff upon goods made in Great Britain. Since then we have had plenty of time to observe the operation of it. * * *

The only important effect the preference has developed in favor of British manufacturers has been to overload Canada with British textiles, and to make the once fairly prosperous Canadian textile industry almost a thing of the past. No new capital is now being invested in producing textile goods in Canada.

It is shown that of the total value of 250 articles in 15 schedules, \$59,905,810, the United States, under the general tariff, supplied us to the value of \$49,603,523, while Great Britain, under the preferential tariff, sent us to the value of only \$6,183,458, the balance coming from all other countries. It is also noticeable that under the preferential tariff Great Britain sent us to the value of only \$38,475,505 dutiable goods and \$16,837,745 free goods, while the values of all merchandise imported from the United States were: Dutiable, \$77,543,780; nondutiable, \$73,282,735; total, \$150,826,515. In other words, of all merchandise, dutiable and free, imported into Canada in 1904 for home consumption, valued at \$251,464,332, Great Britain supplied 24.5 per cent, the United States, 60 per cent, all other countries contributing 15.5 per cent.

So, too, in our imports of free goods, our schedules including 104 items, a large portion of which are semimanufactured products, to be considered as raw products for consumption in Canadian factories. Out of a total valuation of \$62,419,975, Great Britain supplied us to the extent of 9.8 per cent, the United States 82.5 per cent, the rest of the world 7.7 per cent.

With regards to our exports, a schedule of values of 67 articles of Canadian manufacture is given, the total value of which is \$17,735,861, of which only \$5,358,787 went to Great Britain, while \$6,838,622 went to the United States.

GEO. W. SHOTTS, *Commercial Agent.*

SAULT STE. MARIE, ONTARIO, *February 8, 1905.*

SEWAGE SYSTEM OF PANAMA.

(From United States Consul-General Gudger, Panama City, Panama.)

In my report of January 25, 1905 (see Daily Consular Reports, No. 2197, of March 3, 1905), an account was given of Panama's new water system to be supplied from the large lake at Rio Grande, 10 miles from the city. In connection with the waterworks, a sewer system is provided for in the treaty between the Republics of Panama and the United States, the latter Government undertaking to construct waterworks and sewer systems and maintain them for a period of fifty years, in the manner and on the terms set forth.

The work is progressing satisfactorily, and it is confidently hoped by those in charge that the drainage will be completed in the course of four months. The material is on the ground and the dry-season weather conditions for the next few months should be very favorable.

Vitrified terra-cotta pipes will be used. Twenty-inch mains will be laid in the principal streets and smaller sizes ranging from 15 to 8 inches will be used in the streets of less importance. The mains will be extended to the low-tide mark in the bay. Panama is so situated that the engineers will have little difficulty in constructing the sewer system, as the grades are all that could be desired.

There is much speculation as to what the health conditions in the city will be during the construction, while the streets are being excavated, but the best experts seem to hold the opinion that the use of disinfectants will prevent bad results. Many, however, have grave apprehensions on the subject.

H. A. GUDGER, *Consul-General*.

PANAMA CITY, PANAMA, *January 30, 1905.*

TRADE CONDITIONS IN JAPAN.

(From United States Consul Monaghan, Chemnitz, Germany.)

The following interview of a reporter of the Deutsche Confectionär with the attaché to the Japanese legation in Berlin will be of interest to manufacturers and exporters of goods to Eastern markets:

GERMAN PRODUCTS IN JAPAN.

Q. What German products play an important part in the exports to Japan, especially in the textiles?

A. Generally speaking there are a great many. I will name spinning machines, cotton yarns, printed cambrics, cotton plush, woolen and worsted yarns, Italian cloth, mousseline delaine, and woolen and worsted cloth. Although Germany has worked diligently to hold her own in these articles, England has made pronounced inroads within

the last twenty years into the trade with Japan excepting in woolen and worsted goods. Apart from this, England delivers a large part of the raw materials necessary for the textile industry. Raw material is something Germany does not deliver and has not attempted as yet.

Q. Please name the half products.

A. As regards half products, you know you can not send us raw cotton, for our demand is covered by the British Indies, China, and the United States. Perhaps the following information may be of interest: The Japanese spinners have made very pronounced progress during late years, so much so that their spinners' union have come to the conclusion that it is necessary for them to establish a purchasing house in America. This is secondary and only for your information. Your manufacturers of textiles should consider the following articles: (1) Cotton shirtings, gray and white; (2) cotton satins and Italians; (3) cotton umbrella cloth; (4) jute cloth; (5) flax. Germany has not made her appearance in the Japanese market with the foregoing, while England has been doing and still continues to do a large trade in them. It rests with you to bring these facts home to your very industrious manufacturers and call their special attention to them.

INTRODUCTION OF GERMAN PRODUCTS INTO JAPAN.

Q. What would be necessary to bring German products into the Japanese market?

A. We have in Japan two commercial museums—one in Tokyo, known as the Schoin-Chinretsukan, and one in Osaka, called Shoin-Chinretsu-Sho. In both of these institutions you can display your goods free of charge. In the latter, raw materials can be displayed. Formerly a lot of valuable time was lost in getting in touch with these commercial museums, but at present things are changed. Now one has merely to send in an application to the minister of commerce, with samples of product, and a place will be found in which to display goods.

COMMERCIAL LANGUAGE OF JAPAN.

Q. In what language is it necessary to send the application, and what language is generally used in commercial relations with the outside world?

A. Our merchants and manufacturers have very little knowledge of either French or German, although German is taught in the State institutions. English remains the commercial language, but there are a number of German houses in Japan.

PRINT DESIGNS.

Q. Japanese buyers apparently pay particular attention to skill in designing printed cloth, due to the high level which the Japanese have reached in their own designing methods.

A. You are quite right in this respect. We stand to-day in Japan quite on the same level with the United States. My personal opinion is that our taste is somewhat finer.

TAXATION IN JAPAN.

Q. Business taxation in Germany is a burning question. May I ask you in what manner you deal with the subject in Japan?

A. Business taxation in the German sense we have known only since 1896. Even the very small business houses have to contribute toward the local tax. The Japanese Government has divided business into nine classes, each governed by a special form of calculating its particular tax. The war with Russia has caused an increase in the classes in order to collect funds to defray expenses. It was found necessary by the Government to increase the taxes on business, land, exchange, income, and stamps; also to place an increased duty on ready-made clothing, parts of same, and on silk goods. A new duty of 15 per cent was placed upon woolen goods. One year after the close of the war these duties will be removed.

EXCHANGE SYSTEM OF JAPAN.

Q. Will you be kind enough to tell me something about the exchange system?

A. The origin of the exchange in Japan dates back to the seventeenth century and was limited to dealings in rice. Under the present Japanese exchange law the exchange can be either a corporation or a joint-stock company. In both cases it is a juridical person and can hold property. Only Japanese citizens, not less than 25 years of age, who have been engaged at least two years in the corresponding class of business, can become members of an exchange. A peculiarity is that exchanges which are joint-stock companies are responsible for the nonfulfillment of business transactions of the brokers themselves. In this respect, as you see, the Japanese exchange gives more security than does, for example, the "Caisse de garantie" in Le Havre or the "Produce exchange clearing house" in London.

Q. Can a firm be shut out of the exchange?

A. Exactly the same as in Germany. The general director of a Japanese exchange, with the consent of the board of directors, can also impose fines on individual members.

The foregoing is another example of the exactness and carefulness of the German in obtaining information of a country with which he wishes to increase his trade. Our geographical position gives the United States an advantage over most nations in the Japanese trade, and it behooves our manufacturers and exporters to be on the alert.

J. F. MONAGHAN, *Consul.*

CHEMNITZ, GERMANY, *January 25, 1905.*

RAILWAY AND TELEGRAPH RATES IN PANAMA.

(From United States Consul-General Gudger, Panama, Panama.)

For many years the passenger, telegraph, and freight charges for service across the Isthmus of Panama have been very high—in the opinion of many, exorbitant. For several months these charges have been a topic of conversation on the Isthmus, and many articles have been published on the subject in the local papers and in the United States.

It has been generally understood that in April next, when the Americans are expected to take charge, the rates will be greatly reduced. In anticipation of this, doubtless, the company has issued a tariff covering the subjects under consideration, in which considerable reduction is made in charges. The passenger rates across the Isthmus have been \$4 gold for first-class and \$6 silver currency for second-class passage. By the new tariff a first-class passage is \$2.40 gold, while the second class is \$2.85 silver. These rates do not cover the charge for baggage, that remaining as heretofore, 3 cents gold per pound. A local official is authority for the statement that the failure to make the reduction on the baggage rate was likely due to an oversight and that probably the rate will be lowered soon. The old rate for telegrams was \$1 gold for ten words and 10 cents for each extra word; now it is 25 cents gold for ten words and 2 cents for each extra word.

The freight rates have been reduced at least 50 per cent. That which most appeals to persons living along the line of the railroad is the fact that a rate based on the mileage is made to each station, where heretofore the charge to any station was the same as if the goods passed over the entire road.

H. A. GUDGER, *Consul-General.*

PANAMA CITY, PANAMA, *January 30, 1905.*

FOREIGN TRADE OF PUERTO CABELLO.

(From United States Consul Peterson, Puerto Cabello, Venezuela.)

The following report covers the six months ending December 31, 1904:

EXPORTS.

France still maintains its leading position in the exports of Puerto Cabello, owing to the greater portion of the coffee shipped hence going to that country, mostly "at option," for distribution to the European markets. Germany has a slight lead over the United States in coffee, coming second to France. The United States takes the largest quantity of hides, the shipments of other products thereto being relatively unimportant. The relative order in amount of coffee shipped to the several countries is as follows: France, Germany, Cuba, Spain, Netherlands, United States. France also leads in the exports of cocoa, followed, in their order, by Germany, Spain, England, and the United States. In the exports of woods Germany figures as the sole shipper, although the price is said to be very low. Cuba maintains first position in the exports of cattle, the number taken, however, having fallen off considerably toward the close of the year. During the six months,

45,077 head of cattle, weighing 29,749,596 pounds, and valued at \$538,858 went to Cuba, including 4,990 cows, and 235 horses and mares, valued at \$2,463. Cattle (163 head), valued at \$3,551, were exported to Curaçao, Dutch West Indies.

IMPORTS.

Imports into Puerto Cabello from the several countries, and imports in transit for Tucacas, La Vela, and Maracaibo for the six months ended December 31, 1904.

Countries.	Into Puerto Cabello.	In transit for—		
		Tucacas.	La Vela.	Maracaibo.
England	\$198, 119	\$47, 544	\$29, 662	.....
United States	190, 892	19, 273	34, 445	.....
Germany	149, 731	24, 502	17, 379	.....
France	65, 195	16, 608	4, 648	\$1, 206
Spain	48, 171	7, 103	2, 305	1, 321
Netherlands (includign Curaçao)	44, 069	8, 644	3, 075	.....
Italy	32, 128	3, 238	986	668
Cuba	485	.....	.....	.....
Total	728, 240	126, 907	92, 500	3, 196

Imports from the United States during the six months show a relative gain over last year, having passed those from Germany and being only slightly behind those from England in value, while leading in weight. In the imports from the United States the greater part of the supplies for the new electric plant of Puerto Cabello were included. The boiler and engine were imported from England, although ordered through an American house. About 30 per cent of the imports into Puerto Cabello are in transit for adjacent points on the coast, namely, Tucacas, La Vela, and Maracaibo. This transfer has hitherto been effected by means of one small coasting steamer and a number of sailing vessels, but it is announced that the Hamburg-American Line will shortly inaugurate a coast service by steamer covering these ports. Until within the past six months this transshipment of goods for La Vela and Maracaibo was effected at Curaçao, but this was forbidden by a decree of the Venezuelan Government, although the greater portion of imports for the latter place are transshipped at New York. Tucacas is a new port which was opened in November, 1903, but has only been used to any extent during the last six months, the wharf and custom-house not yet being completed.

Among the imports from Great Britain were 2,993,291 pounds of coal from Cardiff for the use of the railroad connecting Puerto Cabello with Valencia. During the past three months work has been resumed on the coal mines operated by the Government in the State of Falcón, and a quantity of coal has recently been embarked at Coro for the use of a Venezuelan war vessel.

JEROME B. PETERSON, *Consul.*

PUERTO CABELLO, VENEZUELA, *February 2, 1905.*

AUTOMOBILES IN GUATEMALA.*(From United States Consul-General Winslow, Guatemala City, Guatemala).*

The roads in Guatemala are not fit for automobiles. In fact, there are few that could be traversed by a machine. Even the streets in Guatemala City have hardly tolerable paving. This is doubtless the reason there is only one bicycle and one autocar with two seats in this city. I think there are no others in the country. There are no regulations as to the use of automobiles.

The customs duty on motor cars is the same as that on carriages, the duty being assessed per kilogram (2.2 pounds), as follows: Up to 100 kilos (220 pounds), 30 cents; 100 to 250 (550 pounds), 28 cents; 250 to 500 (1,100 pounds), 25 cents; 500 to 750 (1,650 pounds), 22 cents; 750 to 1,000 (2,204 pounds), 20 cents; 1,000 kilos and upwards, 17 cents.

These duties must be paid 30 per cent in United States gold and 70 per cent in Guatemalan currency, so that, at the current rate of exchange, the equivalent in United States gold of the duties is 36 per cent of the nominal rates, as the currency of Guatemala is worth now 8 cents gold for one peso.

ALFRED A. WINSLOW, *Consul-General.*

GUATEMALA CITY, GUATEMALA, *December 31, 1904.*

PLAUEN LACE TRADE WITH THE UNITED STATES.*(From United States Consul Muench, Plauen, Germany.)*

While the total value of the Plauen lace goods exported to the United States during the fiscal year 1904 has not greatly exceeded that of the previous year, the bulk was heavily in excess. The cause of this may be found in the sudden change of the world's fashions to articles of net-top lace instead of plain guipure, thus bringing out an article much cheaper in proportion, less ornate, and running to great quantities. To this district and its trade this was no distinct advantage. While in the "burned-out" lace, but little of the productive cost is expended upon foreign-bought material, the quality of net demanded by the average article of net top can not be found in this country but is derived from England. True, there are a few plants in this and adjoining districts in which a serviceable quality of net is produced, but their capacity for meeting a suddenly increased demand is limited, and even then it is claimed that the German manufacturer has not yet fully acquired the art of singeing and finishing these goods in the English style. Many of our local lacemakers were sore pressed

when endeavoring to execute American orders without having first made sure of a sufficient supply of this necessary underlying material.

The trade in laces between this district and other countries has not been uniformly satisfactory in 1904. England, during the last six months of 1903, purchased but sparingly, and only in recent times have orders from that market proven acceptable. Export to the remaining nations, so far as their trade was not disturbed by war, has continued substantially as in the past. It still remains true that fully one-third of the entire output of Plauen laces reaches the United States. No material change in the mode of conducting the export trade in laces can be noted except in a few directions. The great bulk of orders given is still placed through the agency of local commission houses, whose effectiveness in that direction has been greatly enlarged by the continued growth in the number of manufacturing plants, mainly in outside towns and villages, where lower rates of living and wages offer some extra inducements.

In the summer and fall of 1903 orders from English and American buyers fell far short of the usual and expected number. This is demonstrated by the recorded decrease in exports during the first three quarters of the fiscal year. After it was discovered what designs and styles were demanded by the American market, repeat orders became so heavy that the excess of the fourth quarter (April, May, and June, 1904) more than made up the deficiency of the preceding nine months. Thus the work of the entire year was much more evenly distributed than ever before. In view of the present status of the industry here, and of the facility with which American importers can procure renewed supplies of specially happy designs or patterns, it is not likely that the methods now inaugurated will again be changed.

A notable fact in regard to the intercourse between this district and the United States is that the large western houses are gradually emancipating themselves from dependence upon the importers of our eastern cities. Many of the former have established local agencies in these industrial regions, through whom they purchase directly what they need for the western trade, and others are to follow.

Both in cambric embroideries and in hand-made torchons (especially silk torchons) there was a perceptible increase of output, and the United States received its share of it.

HUGO MUENCH, *Consul*.

PLAUVEN, GERMANY, *December 28, 1904.*

MUNICIPAL "HUMANIZED" MILK.

(From United States Consul Boyle, Liverpool, England.)

The health committee of Birmingham recently visited Liverpool and investigated the system existing here of the municipality supplying "humanized" sterilized milk to mothers who can not or do not give proper natural nourishment to their offspring. Most of these mothers live in the "slum" area, where the general conditions of life are very insanitary, and the residents of which are among the poorest and most ignorant in England. The committee from Birmingham were so favorably impressed by what they saw and learned that they have recommended to their municipality the adoption of a similar system.

This recommendation has, however, precipitated a lively discussion in Birmingham. There are three grounds of opposition: First, that the proposal involves a still further extension of "municipal socialism," or "municipal trading," as it is generally known, and undoubtedly there is just now an increasing manifestation throughout the country of this opposition; second, because of the belief among some people (including a few medical men) that the use of sterilized milk or water is injurious, and particularly that it induces "rickets" and scurvy; and, third, that it is wrong to encourage any departure from nature's provision for feeding infants.

These points have been fully discussed in Liverpool. The scheme of the municipality supplying humanized sterilized milk was inaugurated in 1901, and it may now be considered one of the permanently established institutions of this city. In view of the discussion now going on in Birmingham, it is interesting to observe that the Liverpool public health department claims that this undertaking should be considered as very far removed from the usual "municipal trading" concern. It is urged that it can be rightfully classed with public sanitary work, and that it also embraces a great deal of what would fall within the province of a clinical hospital for infants. And it is a fact that in Liverpool there appears to be general acquiescence in the propriety of the scheme even on the part of those who are on principle opposed to all forms of "municipalization."

As to the claim that sterilized milk, or sterilized water, induces "rickets" or scurvy, the medical officer of health of Liverpool enters the general plea of "not proved." He says that sterilization is necessary to kill any possible noxious germs in the milk. On the one hand, is a positive danger to be avoided as against a possible and problematical evil result. Still, he recognizes the need of great care and discrimination in feeding infants with not only the municipal humanized sterilized milk but with any form of artificial food. The authorities sometimes refuse to allow mothers to have the milk at all,

and the period of use is strictly limited, according to individual symptoms.

As to the third objection, the Liverpool authorities strongly emphasize the fact that the milk is intended solely for the use of those infants whose mothers are unable to suckle them, or who can only partially suckle them. This fact is stamped upon every card of instructions, and is placed in prominence at every opportunity. The Liverpool health officer remarks:

The problem of finding a complete substitute for the milk of a healthy mother has not been solved, and probably never will be solved. As the infant grows there may no doubt be variation in the quality of the mother's milk which specially adapts it to the infant's need, necessities in nature which can not be approached artificially. The use of artificial food is unavoidable under the existing social conditions; the nearest approach to the natural food is derived from cow's milk, which can be so altered as to closely imitate human milk in its composition, and it can also be made to resemble it in another important particular, viz, it can be sterilized, and given while so sterilized.

As administered in Liverpool, I believe that medical men indorse the scheme with practical unanimity. Without going into the elaborate statistics available, it can be said that the results in Liverpool prove that the system has effected a great saving of infant life. The report for 1903 showed that while the general death rate in Liverpool of infants under 12 months of age was 159 to the 1,000 born, the death rate of infants of similar age fed on the municipal milk was only 78 per 1,000, a saving of 81 lives per 1,000. These figures are the more striking because of the fact that the year 1903 was characterized by the lowest death rate ever recorded in Liverpool. For the last five years the average of deaths of infants under 12 months was 180 per 1,000 born, and during 1904 it reached the high number of 196 per 1,000. The relatively greater loss of life below 12 months of age, as contrasted with that over 12 months of age, is startlingly shown by the fact that the death rate in Liverpool of the latter was but 16.3 per 1,000 on an average for the last five years, and in 1904 was only 15.8 per 1,000; and it should be remembered that these latter figures include the deaths from the inhabitants of the slum area. The fact is that, apart from the slum area, Liverpool is a healthy city.

The scheme was initiated early in 1901, and up to December 31, 1904, the number of infants fed on the municipal milk was 8,481. In 1904 the approximate average age of the infants was 4½ months. It is estimated that the system has already saved the lives of over 650 children, besides giving strength and vigor to thousands who otherwise would probably be ill nourished and puny. During 1904 the number of children fed on the municipal milk was 2,186, of whom 2,030 were under 12 months of age. This was a decrease, as compared with 1903, and the reason is a very curious one. Once during 1904 an experi-

ment was tried of taking a shorter time in the process of sterilization, which is by steaming the hermetically sealed bottles. The health officer, however, was not satisfied with the experiment, and he "called in" the milk sent out. The mothers suspected that something was wrong with the milk, and it took months to restore their full confidence. The sale of the milk now is as large as it ever was.

The most frequent of the causes which contribute to the high infant mortality in Liverpool are shown by medical certificates to be atrophy, diarrhea, diarrhea with convulsions, and similar causes, all pointing to the fact that from some reason or another nutrition is interfered with, and that the infant is unable to live upon the food given it. The loss of life from diarrhea and kindred ailments is greatest by far in the summer and autumn months. It was found as the result of careful observations, extending over several years, and which involved the circumstances of upward of 1,000 deaths of infants, that among infants under 3 months of age, either wholly or partially fed during this season on artificial foods (often absolutely unfit), the deaths were fifteen times as great as they were among an equal number of infants fed upon breast milk; in other words, out of every 1,000 infants under 3 months of age, naturally fed upon breast milk alone, 20 died of autumnal choleraic disease; but of the same number of infants at the same age, artificially fed, instead of 20 dying, as many as 300 died from this cause. Similarly, between 3 and 6 months and 6 and 9 months of age, there was an immensely larger proportion of deaths among the artificially fed than among the breast-fed infants, although this proportion diminished as the age increased. One of the most discouraging features was found to be the lamentable want of maternal care, or of intelligence, or of capability to follow out instructions when they were given by the medical adviser. The food given to the artificially fed in the slum area was almost invariably found to be unsuitable, stale, or even putrescent, and given from a dirty and foul-smelling long-tubed feeding bottle.

It is obvious that the staple food of artificially fed infants must be cow's milk modified in some form or another. Nearly 30,000 gallons of milk are consumed in Liverpool every day, but as the Liverpool cows only provide half this quantity, it is necessary to deal also with the sources of supply of the other half which comes from country districts. With regard to cows kept within the city, the closest attention has been paid, for the past ten or twelve years, to the condition of the cow sheds and the health of the animals. With regard to milk imported from other districts, a Parliamentary act was obtained in 1900 which enabled the health authorities to prohibit the importation into the city of milk from any outside dairy or cow shed, if, in the opinion of the medical officer of health, such milk was contaminated in a manner likely to cause tuberculosis—a provision which, while

guarding specifically against that disease, also incidentally results in insuring healthy cows living under healthy conditions. As to its authority over milk brought from outside, Liverpool enjoys a unique position among English municipalities.

In this country the project of "humanizing" the milk—that is to say, making it by the additions of milk-sugar, water, salt, and cream, as nearly as possible of the same chemical composition as human milk, and sterilizing it, and adopting such methods as will enable the infants to receive this milk pure and without contamination—was first carried into effect on a small scale at St. Helens, a Lancashire town, near Liverpool. But the idea came from France. In that country certain quantities of food are given, at the cost of some municipalities, to mothers for their own nourishment, upon the condition that they will suckle their offspring, while steps are being taken to find some substitute for mother's milk for those infants whose mothers were unable to suckle them.

The milk is supplied by contract from both town and country "shippons" (stables), or farms, and samples of it are taken on delivery at Liverpool from time to time for chemical and bacteriological analysis. When it arrives at the depot, as a routine practice, a sample is taken for the purpose of estimating the amount of fat by Gerber's test; a sample is also examined in the cream tube. It is the experience of the authorities that purer milk is obtained as a rule from town stables than from country farms. This is because of the very strict sanitary regulations enforced in the city.

The method of using the humanized milk is carefully explained verbally to the person having charge of the infant, and from time to time visits are paid to see that the milk is being used intelligently and in a proper manner. Owing to a common prejudice among the more ignorant classes, it is difficult to induce many mothers to bring their infants to the depot from time to time to be weighed. There are four female official inspectors who visit the homes of the mothers, carefully watch and record developments, order the cessation of the use of the milk, and suggest change of diet when advisable, and also give general advice as to the care of the infants. The milk is supplied through four municipal depots, and also through some of the regular milk dealers. It is put up in baskets, each containing nine bottles, each bottle containing sufficient milk for one "feed." The cost of a full weekly supply is 36 cents.

It should be clearly understood that this scheme is not run as a business enterprise. There is no attempt to make profit, or even to meet expenses. Last year the total expenses—including the cost of milk, etc., wages, plant, rent, and administration—were a little over \$18,000, and the income from the sale of milk was about \$8,350.

JAMES BOYLE, *Consul*.

LIVERPOOL, ENGLAND, *February 21, 1906.*

ALCOHOL IN MANUFACTURES IN ENGLAND.

(From United States Consul Halstead, Birmingham, England.)

The London, Manchester, Liverpool, Bristol, Glasgow, and Birmingham chambers of commerce are taking part in the agitation to modify the restrictions placed by the inland revenue authorities upon the use of alcohol in manufacturing processes. I have reported that the chancellor of the exchequer had appointed a committee to look into the matter. (See Monthly Consular Reports, No. 291, December, 1904.)

The Birmingham Daily Post claims that no district is so interested in the granting of the desired concessions as Birmingham, many of the principal industries in which alcohol is used being represented in or near the midland metropolis. There are a great many varnish manufacturers and lacquer makers with works in Birmingham or the immediate neighborhood. The Post says that "more lacquer is made in Birmingham than in all the rest of the world put together, and there can be no doubt that more of it is used than in any other place," for Birmingham is the center of the brass and other metal trades, and lacquer is used on practically every article of metal on which a high polish is desired. I quote the Post article in part, as follows:

It is contended that if lacquer could be made from pure, cheap spirit, the metal workers would be able to turn out a better finished article at a lower price. Even in the manufacture of varnish the use of spirit that has been denatured by adding 10 per cent of wood naphtha has the effect of clouding the varnish. It is more expensive to use methylated spirit than to use pure spirit, because the cost of the methylating has to be added to the cost of the alcohol. The cost of methylated spirit is further increased by the fact that the process of methylating it is only practiced by a few firms in this country, and they are able to keep up the price. Consular returns show that during the present year, when English methylated spirit was being sold at 1s. 9d. (42 cents) per gallon, alcohol of the best quality was being sold at Marseille in new, iron-bound barrels, at 11½d. (23 cents) per gallon, less 6 per cent for cash; and the price of alcohol in Cuba was 5d. (10 cents) per gallon.

The manufacturers contended that wood naphtha and turpentine are not the only effective denaturants, and that they should be allowed to mix the alcohol with denaturants that are not inimical to the process of manufacture. In the case of the lacquer manufacturers it is suggested that it is only necessary to mix the alcohol with shellac, which is impotable, and therefore would spoil the spirit for drinking purposes, but is an essential ingredient of lacquer and would improve the spirit for manufacturing purposes.

Chemists claim that the revenue authorities should be satisfied if they saw the alcohol mixed with one or other of the constituents of the particular drug that was in process of manufacture. Motorists would probably be content if the spirit was mixed with 10 per cent of petrol, which would render the liquid undrinkable and would improve it as a motor power. With regard to the manufacture of explosives,

it is argued that if pure alcohol could be used a much cheaper and less dangerous process could be adopted. A leading firm of chemical manufacturers at Bristol states that practically the whole of the trade in drugs containing alcohol has got into the hands of the Germans because of the duty on alcohol.

On paper it seems that the Germans are not allowed to use absolutely pure alcohol duty free, but Mr. Barlow states that he has bought cheap alcohol in Germany which on analysis showed no signs of a denaturant except a small percentage of shellac, and there is documentary evidence to show that the restrictions in Germany are much lighter than in this country. Instead of 10 per cent of wood naphtha Germans may mix with the alcohol 2 per cent of wood naphtha and 2 per cent of petroleum benzine or 0.5 per cent of turpentine. These quantities are so small that they do not appreciably affect the nature of the spirit, and there are many exceptions to these regulations. Under certain conditions the infinitesimal amount of 0.025 per cent of animal oil may be used. The principle that the denaturant should be adapted to the commercial purpose for which the alcohol is to be used is largely carried out in Germany and also in France. For instance, in the manufacture of collodion, the alcohol may be mixed with 10 per cent of ether, which is a necessary ingredient of collodion.

In answer to the objection on the part of the inland revenue authorities that a relaxation of the existing restrictions would open the way to illicit dealing in spirits, Mr. Barlow contends that this could be obviated by granting the privilege only to those firms which are able to satisfy the revenue officers that the alcohol is duly mixed with the denaturant, and that it is actually used in the process of manufacture. He suggests that alcohol should be run direct into sealed tanks containing the shellac, petrol, or ether, as the case may be.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *February 2, 1905.*

RAILROAD EXTENSIONS IN MEXICO.

(From *United States Consul Le Roy, Durango, Mexico.*)

Private information is to the effect that the arrangement for a subsidy to the proposed extension of the Mexican International Railroad from Durango across the Sierra Madre to Mazatlan on the Pacific coast has been completed, at least for half the route. The indications at present seem quite favorable for the construction of this extension, beginning at an early date.

The difficulty about the subsidy appears to have had some connection with the fact that in 1903, when announcing its acquirement of a controlling interest in the new national railroad system of Mexico (of which the International forms a part), the Mexican Government officially declared its abandonment of the policy of granting subsidies, by which all but one of the trunk lines, and many of the branch roads, of this country have been built. In the case of the proposed extension to Mazatlan, there are various reasons for making an exception: First, the International Railroad itself was built by the late C. P. Huntington

without a subsidy, being the only trunk line so built in Mexico, and it has not, in the twelve years since its completion to this city, carried its line to Mazatlan, because of the cost of construction of the remaining 200 miles of route; second, this road is now a part of the system in which the Government itself is interested; third, in response to petitions from the States of Durango and Sinaloa, President Diaz virtually pledged the Government to aid the construction of this important connecting link, which should do so much for the development of the Sierra.

It has recently been announced that the national lines of Mexico have completed a close traffic agreement with the so-called "Gould lines" of the United States, whereby specially favorable freight rates and connections will be made for Mexican business to the United States, and vice versa, and whereby also an especial effort will be made to secure tourist travel for Mexico.

JAMES A. LE ROY, *Consul*.

DURANGO, MEXICO, *February 5, 1905.*

LOSS OF MERCHANT VESSELS IN THE RUSSO-JAPANESE WAR.

(From United States Minister Griacom, Tokyo, Japan.)

As yet no accurate list showing tonnage and nature of cargo of the merchant vessels sunk or captured by the Japanese and the Russians, respectively, since the war broke out has been published. In the case of some of the vessels, protests, still sub judice, have been lodged against confiscation. So far as is known, however, the vessels taken by the Japanese are as follows:

Vessels taken in war by the Japanese in 1904 and 1905.

Steamship.	Nationality.	Date of capture.
Mukden.....	Russian.....	1904. Feb. 6
Rosalia.....	do.....	Feb. 7
Argun.....	do.....	Do.
Nicholai.....	do.....	Feb. 10
Michael.....	do.....	Do.
Alexander.....	do.....	Do.
Manjuria.....	do.....	Feb. 17
Rostick.....	do.....	Feb. 10
Ekaterinoslav.....	do.....	Feb. 6
Juridea.....	do.....	Feb. 17
Manjuria (second of this name).....	do.....	Feb. 9
Kotik.....	do.....	Feb. 10
Talia.....	do.....	Apr. 13
George.....	French.....	Aug. 19
Fuhpir.....	German.....	Oct. 12
Veteran.....	British.....	December.
Nigretia.....	do.....	Do.
King Arthur.....	do.....	Do.
Rosalie.....	do.....	1905. Jan. 11
Redington.....	do.....	Jan. 12
Wilhelmina.....	Dutch.....	Jan. 16
Bawtry.....	British.....	Jan. 17
Oakley.....	do.....	Jan. 18

The most of the foregoing 23 steamers are fine vessels. No merchant steamer flying the Russian flag, nor any merchant vessel of non-Russian nationality carrying contraband of war, has been sunk by the Japanese. In addition to the foregoing, two sailing vessels were captured in February, 1904, namely, the *Nudegita* and the *Bobrick*.

The ships captured and released upon examination were as follows:

Vessels captured in war and released by the Japanese, 1904.

Steamship.	Nationality.	Date of seizure.
Helms	Norwegian	Feb. 9, 1904
Otaguy	do	June 7, 1904
Hsiping	British	July 14, 1904
Peping	Chinese	July 17, 1904
Hsisham	British	Oct. 7, 1904

The Japanese vessels sunk by Russian war ships were as follows:

Japanese vessels sunk in war by the Russians, 1904.

Steamship.	Gross tonnage.	Date.	Owner.
Nagano-ura Maru	1,084	Feb. 11, 1904	Not recorded (private owner).
Hanyei Maru	75	Mar. 26, 1904	Asahi's dispatch boat.
Goyo Maru	600	Apr. 25, 1904	Hiro Kwaiso-ten.
Kinshu Maru	3,853	Apr. 26, 1904	Nippon Yusen Kaisha.
Haginoura Maru	Small.	do	Hori Kwaiso-ten.
Hitachi Maru	6,175	June 15, 1904	Nippon Yusen Kaisha.
Izumii Maru	3,229	do	Do.
Seisho Maru	150	June 30, 1904	Not recorded (private).
Takashima Maru	318	do	Tokyo-wan Kisen Kaisha.

Of these 9 steamers no less than 6 were privately owned, only 3, marked Nippon Yusen Kaisha, being public vessels—that is to say, chartered by the Government for State service, and 5 were vessels of altogether insignificant dimensions. In addition to the foregoing, 4 small sailing ships of Japanese build were sent to the bottom. No vessel was captured by the Russians, who resorted solely to sinking the enemy's craft.

Note should be taken also of the steamers of the Japanese sunk by themselves for the purpose of blocking Port Arthur. There were 17 of these vessels, with a total tonnage of 35,208 tons.

INCREASE IN THE JAPANESE MERCHANT MARINE.

An interesting point is whether the Japanese mercantile marine has diminished or increased during the war. If we omit from the last table the 3 little steamers *Hanyei Maru*, *Seisho Maru*, and *Takashima Maru*, whose aggregate tonnage was only 543 tons, it appears that the Japanese had 6 steamers sunk by the Russians, that they themselves sunk 17 at Port Arthur, and that 6 of their ships were lost during 1904, owing to ordinary disasters of the sea. These 29 steamers aggregated 67,730 tons. On the other hand, the number of steamers purchased

abroad in the same period was 53, and the number built in Japan was 5, the total tonnage of the 58 being 144,258 tons. Hence the net result is that the number of ships in the steam mercantile marine increased by 29, and the tonnage by 76,528 tons. Adding the 23 steamers captured the increase in ships has been 52.

LLOYD C. GRISCOM. *Minister.*

TOKYO, JAPAN, *January 23, 1905.*

UNDERPAID POSTAGE ON LETTERS FOR FOREIGN COUNTRIES.

United States consuls are constantly calling attention to the importance of putting the proper amount of postage on letters sent to foreign parts. "It seems," says one writer calling attention to the prevailing carelessness of the American people, particularly business men, in this connection, "that our people do not fully realize that the postage to foreign countries is 5 cents for each half ounce or fraction thereof, and not 2 cents for each ounce or fraction thereof. The sending of letters at local rates to Canada, Mexico, Cuba, etc., has greatly increased the liability to stamp letters for all other countries at the same rate."

The same writer thinks it would be a good idea to have "the letters upon which the postage has not been paid in full returned to the sender." It might be a good plan; but it may be best for all concerned to have their attention called to the actual conditions under which letters are now carried. Parties who are so careless as to have their letters sent with insufficient postage must not be surprised if the letters are returned, or, when not returned, if answers never come. It not infrequently happens that the letter, when read, is relegated to the wastebasket by an exasperated merchant or manufacturer. It indicates a degree of carelessness that leads foreign business men to believe it best to avoid dealings with those who do it.

A leading firm in Gottenborg, Sweden, writing to an American trade journal points out the evils of the present system in no uncertain tones. It says:

In the December number of your journal we find some lines on the prepayment of foreign postage. We have read the article with great interest and think it well worthy of consideration. Being importers of great quantities of American goods we receive very many letters from the United States, and can, from our own experience, say that business men of no other nation are so extremely careless in these things as are the American firms. Not a single week passes without half a dozen or more letters coming to us with underpaid postage. And this not only from firms with which we are in regular correspondence, but also from manufacturers making us offers and sending their catalogues for inspection. Whether this is due to the ignorance or

negligence of the "office boy" we do not know. At any rate, we do not blame the boy but the firm for the carelessness.

The foreign firm you refer to writes about 1s. 2d. (26 cents) underpaid postage. This is enough, but we can give you a still better example as far as postage due is concerned. Upon the request for catalogues and quotations a firm in the United States sent us a heavy parcel of printed matter, the cover with a 2-cent stamp on it. The underpaid postage amounted to 5.64 kroner (about \$1.50). We thought this rather too much and returned the lot.

United States Consul John C. Caldwell, San José, Costa Rica, says that the question of underpaid postage is becoming an irritating one in his district, and is beginning to have a bad effect on merchants trading with the United States.

Success in the foreign field is sure to come to those who do well the little things that consuls and others, familiar with the facts, are constantly advising. Letters sent abroad without sufficient postage are penalized. Usually double postage is demanded before the letter is delivered to the party to whom it is addressed. The penalty, however, is not the dangerous feature in connection with this carelessness; it is the disgust of the recipient of the letter. How very great should be the care taken will be seen from the following statement of an incident in the office of the leading export journal referred to. The editor says:

Sometime ago, we received a letter from a correspondent in Liverpool inclosing the cover of a letter on which full postage had not been prepaid, stating that he simply called our attention to it because the same mistake had occurred several times before, and suggested that we give our mailing clerk instructions to be more careful. We answered, apologizing for the mistake, and promised to do what we could to prevent its recurrence. In due course we received another letter calling our attention to the fact that even this letter containing our apology had been short paid in spite of all our precautions.

What does this mean? Simply that the men in charge of the mailing division have their minds on other things. Only an ordinary degree of intelligence is required in such a division; and yet the record here is of inexplicable, inexcusable carelessness.

Another fact often called to the attention of business men by consular officers, is the importance of putting extra postage into letters asking for information. Stamps of the country to which the letters are sent need not be used. United States stamps are, as a rule, preferred, for the foreigners often have use for them when asking for information here. The whole question of foreign postage is important. Too much attention can not be given to it. At times a great deal depends upon it; more than merchants and manufacturers may think.

PARCEL CARRYING ON STREET RAILWAYS.

(From United States Consul Hamm, Hull, England.)

The Manchester street railway (or tramways) committee has for some time had under consideration the details of a scheme for carrying parcels on the street cars in that city. This week the committee met and adopted a scale of charges for parcels, inclusive of the charge for delivery, for two areas, the "inside" and the "outside." The "inside" area will include the whole of the city of Manchester, the borough of Salford, and the township of Stretford as far as Warwick road. The "outside" area will include the suburbs which are around the district thus outlined and within the tramway's circuit. Parcels will be delivered to all parts covered by the scheme at intervals of not more than a quarter of an hour. It is expected that the service will be put into operation next month. The following are the charges for the two areas:

Rates for carrying parcels on street cars in Manchester, England.

Weight.	Inside service.	Outside service.
	Cents.	Cents.
Not exceeding—		
14 pounds.....	4	6
28 pounds.....	6	8
56 pounds.....	8	12
112 pounds.....	12	16

Manchester, with Salford and Stretford, all included in the "inside" area, has a population of about 800,000 people. The "outside" area includes a number of suburban towns and villages. Persons who have been discussing parcel-carrying schemes by trolley cars in American cities will watch this experiment with considerable interest.

WALTER C. HAMM, *Consul*.

HULL, ENGLAND, *February 10, 1905.*

COMMERCIAL RELATIONS OF CHILE AND THE UNITED STATES.

Under date of January 13, 1905, United States Vice-Consul R. S. Atkins, Valparaiso, Chile, transmits the following communication, addressed to the United States consul by Messrs. R. Tillmans & Co., of that city:

Referring to former communications, we beg to call your attention again to the following observations regarding means to increase the business done by this Republic with the United States.

First of all, attention should be called to the convenience it would be to have established in this port, as the center of Chilean trade, an

American bank, and have American commerce independent of English banking relations and no necessity for the reduction of American currency to English money. The United States being to-day a financial power, ought not to transact its business in English money. The commerce from the east and west coasts is more than sufficient to warrant the establishment of a banking institution here. Business would increase considerably with facilities to settle accounts in American money, and manufacturers and dealers of the United States could get information of the standing of their customers more directly through the head office or correspondents in New York.

Second, the establishment of an independent steamer line from New York to this port is desirable. It should not be in the hands of merchants, who might find it to their interest to collect the highest freight charges for goods belonging to their competitors and to favor their own importations, obtaining advantages by many means and excluding goods if they wanted to keep the market, etc.

We think it worth while to ask the consul to draw the attention of his Government to these observations made in the interest of direct independent commercial relations of the Republic of Chile with its great sister Republic of North America.

R. TILLMANS & Co.

VALPARAISO, CHILE, *January 12, 1905.*

ELECTRICITY IN METALLURGY.

(From United States Consul-General Guenther, Frankfort, Germany.)

On February 1, 1905, Mr. de Neufville addressed the electro-technical society of Frankfort on the employment of electricity in metallurgy.

He stated that electric energy is always relatively expensive and commercially adaptable only for obtaining highly valuable products from rich materials. This has not been sufficiently considered by various inventors. In the production of gold from ores large quantities of material, not containing gold, have to be treated, and, therefore, the electric process does not pay. The electrolytic separation of gold from a solution of cyanide of potash, however, is profitable. Electrolytic refining of silver is almost everywhere in use, and refining by acids is still in vogue only where the material to be treated is very rich in gold. Silver is never produced from ores by electrolysis.

The greatest interest still centers in the problem of the electrolytic process for obtaining copper from its ores. Experiments hitherto have not failed on account of technical difficulties, but on account of the expense. Electrolytic refining of copper, however, has given good results and is much used, especially in America. Two-thirds of the total copper production in America is the result of this process, which in England has not been so largely used. Germany comes next after England, followed by the other European countries.

The question whether the multiple or serial circuit is most preferable has been much discussed. The largest works in America have adopted the serial circuit in spite of certain theories. Electrolysis in late years has also been employed in refining lead where the object was to produce lead entirely free of bismuth.

The electrolytic method has been put to practical use in the lead works of Trail, British Columbia. Direct production of lead from ores is usually not resorted to. With nickel the smelting process has been maintained; only for refining has electrolysis been used profitably. Electrolytic works for zinc have not been at all profitable, but it would seem that the electro-thermic process for zinc will become of greater importance. For iron and steel the electrolytic process is too expensive and the electro-thermic processes are more likely to be successful.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 4, 1905*.

COMMERCIAL TRAVELERS IN CANADA.

Under date of February 16, 1905, United States Consul-General John G. Foster, of Ottawa, Ontario, transmits the following memorandum (No. 1311 B), issued from the Canadian department of customs, on February 1, 1905:

CONSOLIDATED REGULATIONS RESPECTING COMMERCIAL SAMPLES AND TRAVELERS' BAGGAGE.

1. (a) Samples such as are carried by commercial travelers, together with the trunks and other packages containing them (except when of "no commercial value") are subject to the ordinary customs duty, but not to special duty in addition thereto. Customs officers may allow rebate of duty under the preferential tariff on samples of British origin arriving from any British country, upon declaration of the traveler.

(b) Commercial travelers are required to deliver to the customs officer for entry purposes an invoice or statement in detail, showing the price (wholesale) of each sample as sold for home consumption; such invoice or statement shall be attested to by the traveler, and the quantities of such samples shall be duly checked by the customs officer and proper duty paid thereon before delivery.

(c) Imported samples (not Canadian produce or manufacture) are subject to duty at each time of importation: *Provided, however*, That the trunks in which samples are contained may be admitted free after payment of duty on first importation, if identified to the satisfaction of the customs officer.

(d) Cards, portfolios, pasteboard boxes, or other coverings containing cut samples of cloth, edgings, textile fabrics, buttons of various patterns, and other articles obviously for use only as samples to sell by and having no commercial value may be admitted free of duty; the term "no commercial value" does not, however, apply to portfolios,

boxes, or other coverings used in displaying samples, when susceptible to other use or having a salable value.

2. Merchandise for sale, when brought into Canada as baggage, is subject to duty and to entry at the custom-house, in the same manner as goods imported by freight or express.

3. Wearing apparel, articles of personal adornment, toilet articles, and similar personal effects of persons arriving in Canada may be passed free, without entry at customs, as travelers' baggage, under the provisions of the customs tariff, but this provision shall only include such articles as actually accompany and are in the use of and as are necessary and appropriate for the wear and use of such persons for the immediate purpose of the journey and present comfort and convenience, and shall not be held to apply to merchandise or articles intended for other persons or for sale.

GUATEMALA COFFEE CROP OF 1904.

(From United States Consul-General Winslow, Guatemala City, Guatemala.)

The coffee crop in Guatemala for 1904, the harvest of which is just finished, has not come up to expectations, owing to the very heavy rains late in the season knocking many of the kernels from the trees.

The quality is well up to the average. In the Santa Maria belt the quantity and quality of the crop far exceeded the yield for many years past. This was the result of the volcanic eruption October 24, 1902, by which ashes were spread over a wide area 3 feet to 6 inches deep. At first the deposit was reported to have ruined the country for many years, but it proved to be a blessing in disguise. The coffee trees in this belt are much more vigorous than heretofore, and the crop prospects are bright for what seemed to be a desert waste.

The prices paid for Guatemala coffee are very good, and in general the finqueros are coming out this year about as in former years, notwithstanding the higher wages paid and the export tax of 1 cent per pound.

The crop this year will reach very nearly 700,000 quintals (70,700,000 pounds), of which the United States will get a greater portion than usual, and more of the higher grades.

ALFRED A. WINSLOW, *Consul-General.*

GUATEMALA CITY, GUATEMALA, *January 21, 1905.*

AUSTRALIAN PATENT OFFICE.

(From United States Consul Goding, Newcastle, New South Wales.)

Australia has now a Federal patent law and applications for patents hereafter will have to be filed and dealt with at the Central Patent Office, Rialto buildings, Melbourne. The law is to a great extent based

upon the existing British system, with the notable addition that the official staff, before issuing a patent must make an examination to ascertain whether the invention described has been previously patented or a patent applied for in any of the States composing the Federation. The most important feature is that an invention can now be protected throughout the whole of the Commonwealth for fourteen years by one patent at approximately one-third the cost which was formerly involved when six State patents had to be obtained (New South Wales, Victoria, South Australia, Western Australia, Tasmania, and Queensland). The State patent offices are continued as offices of record and information where specifications of applications filed will, after their acceptance, be exhibited for public information. The act insures that patents previously obtained in the several States shall remain in full force with all the rights granted.

Commonwealth patents will be granted for fourteen years and will be subject mainly to the usual conditions of British and Australian patents, with the exception that if one claim is found by a court to be invalid it shall not affect the validity of any other claim or of the patent so far as it relates to any valid claim. Patents have effect against the Crown, but the Government of the Commonwealth may use any invention upon such terms as are agreed upon with the patentee, or in default of agreement, on terms settled by arbitration, or the Commonwealth or a State may, if thereto authorized by an act of Parliament, direct the patentee of the invention to assign his rights, the amount of compensation being decided by agreement or arbitration. An invention may be assigned before patenting, and the act provides that the communication of an invention to the minister for defense, and proceedings thereunder, shall not be deemed publication, or prejudice the validity of any patent thereafter granted. In the bill as originally introduced there was a provision requiring the invention to be worked as a condition of its maintenance, but the clause was eliminated in passing through Parliament. The nearest approach to such a provision is a power conferred upon the commissioner or the court to order a license to be granted on fair terms to a person wishing to use a patented invention in respect of which "the reasonable requirements of the public may not have been satisfied." The ordinary powers of amendment and extension are provided for, and the act contains provisions under which the Commonwealth is enabled to become a party to the international convention, and it will probably do so. The procedure of application for patents by petition, accompanied by provisional or complete specification, is very similar to that which has been in vogue, with the addition of examination as to novelty and a special power of the commissioner to note likely overlapping patents.

It is expected that a great stimulus will be given by the Commonwealth patents act to the inventions and industries of the Australian people, and that an increased number of inventions, both of local and foreign origin, will be patented.

F. W. GODING, *Consul*.

NEWCASTLE, NEW SOUTH WALES, *December 28, 1904.*

THREAD FROM WOOD FIBER.

(*From United States Consul Atwell, Roubaix, France.*)

Mr. Justin Muller read a paper recently before the Industrial Society of Mülhausen on certain printed goods, the warp of which is composed of cotton and the woof of a thread made from wood pulp. These goods were introduced almost four years ago. At the outset sheets of wood-pulp paper were cut into finest shreds and twisted into thread by machines made for the purpose. Lately the paper process has been abandoned, and wood pulp is passed directly over grooved-metal sheets, forming very thin ribbons, which pass in turn over a machine that twists them into a very regular thread of any desired length.

These threads of wood fiber are known as xyloline, silvaline, and licella, and are numbered like any others. The dynamometric resistance of this thread in a dry state, taking 100 as the resistance of jute threads, is equal to about 55; that of cotton thread in a dry state is 135. The difference is widely in favor of jute and cotton, but it is thought that improvements may increase the resistance of the wood-pulp thread. As it is to be used only in mixed goods great resistance is not of essential importance.

Disht cloths are made of this thread in connection with hemp, and the mixture is washed, dyed, and printed. While wet the wood-pulp thread softens, but recovers its resistance in drying. There are already manufacturing for the production of wood-fiber thread in Germany, Spain, and Netherlands, and France will shortly have a factory. It is thought that this thread may be used advantageously in the manufacture of passementerie, and that it may replace jute and cotton in the composition of many articles.

W. P. ATWELL, *Consul*.

ROUBAIX, FRANCE, *January 27, 1905.*

CREMATION IN GREAT BRITAIN.

(*From United States Consul Mahin, Nottingham, England.*)

Nine crematories are in active operation in this country. The oldest was established in 1885. The number of incinerations at each of them, so far, is as follows: Woking, 2,653; Manchester, 838; Glas-

gow, 157; Liverpool, 264; Hull, 68; Darlingot, 11; Leicester, 14; Golder's Green, 383; Birmingham, 19. Total, 4,407. Cremations in 1904 increased 91 over the number in 1903, Woking alone showing a small decrease.

The figures demonstrate that cremation is making headway slowly in this country, and it is believed that the feeling against it, whether founded on religion or sentiment, is gradually weakening. While the public is slowly becoming accustomed to the idea of cremation, it shows very little interest in the subject. This is laid partly to ignorance and partly to the stricter requirements as to certificates, etc., than in cases of ordinary burial. In 1894, a law court held that, unless explicit instructions had been left in the will, an executor is not competent to cremate his testator. The ground of the decision was that every one is entitled to Christian burial, and that cremation is not Christian burial. Thus it appears that only enthusiasts for hygiene who make the stipulation themselves are cremated. It is a request that testators generally hesitate to make and one which they are inclined to forego when they think of the feelings of their relatives who are usually strongly attached to the older plan of burial. The advocates of cremation have had the misfortune to lose in the death of Sir Henry Thompson the most powerful champion of the cause.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *January 25, 1905.*

EMIGRATION THROUGH BREMEN AND HAMBURG TO THE UNITED STATES.

Under date of February 16, 1905, United States Consul Henry W. Diederich, of Bremen, Germany, transmits statistics covering the emigration to the United States through the ports of Bremen and Hamburg during the month of January, 1905, from which the following table has been compiled in the Bureau of Statistics:

Emigration to the United States through Bremen and Hamburg in the month of January, 1905.

Nativity of emigrants.	Bremen.	Hamburg.	Total.
German	519	383	902
Austro-Hungarian	9,845	5,114	14,959
Russian	2,347	2,605	5,952
All other	95	347	442
Total	12,806	8,449	21,255

EMIGRATION TO COUNTRIES OTHER THAN THE UNITED STATES,
JANUARY, 1905.

During the same month emigration to countries other than the United States was as follows:

Bremen: To Great Britain, 1,030 (of whom 1,007 were from Russia); to South America, 218; to all other countries, 30; total from Bremen, 1,278.

Hamburg: To Great Britain, 1,109; Argentina, 526; Africa, 225; Brazil, 52; South America, other than Argentina and Brazil, 21; Mexico and Central America, 36; Asia, 16; West Indies, 10; total, 1,995.

Total emigration through Bremen and Hamburg in January, 1905: To the United States, 21,255; to all other countries, 3,273; total to all countries, 24,528.

BACTERIA IN WATER.

(From United States Consul-General Guenther, Frankfort, Germany.)

German papers state that pure and clear water can contain disease germs for a long time in a living and poisonous state. It has been presumed that disease-causing bacteria could not increase in pure water and, therefore, soon died, due to the effect of light, low temperature, current of the water, other harmless germs, and lack of suitable nutrition. It has been demonstrated that the typhus bacillus requires at least 67 milligrams of nitrogenous matter in 1 quart of water and the sewer germ over 400 milligrams. The typhus bacillus is said to be able to live only seven days in common waterworks water, and the cholera bacillus only three days. It would appear that these researches were made somewhat superficially, as, according to Mr. Konradi, water is suited to many disease germs which in time overcome harmless bacteria instead of succumbing to them. The experiments of Konradi with the bacillus Milzbrand, which causes inflammation of the spleen, and the typhus bacillus, have demonstrated that the harmless bacteria in the water increased largely for some time, but died subsequently, so that, finally, the water kept in ordinary room temperatures contained only the disease bacteria in full malignancy. The "spleen" bacillus remained alive from 264 to 816 days, and displaced the other bacteria within three to four weeks. The pus bacillus overcame the other bacilli after three months, and lived 508 days, while the typhus bacillus became dominant only after more than four months, but lived 499 days. The "spleen" bacilli thrive even in sterilized water.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *January 31, 1905.*

GERMAN COMMERCIAL TRAVELERS IN THE BALKAN STATES.

(From United States Consul Monaghan, Chemnitz, Germany.)

An English technical journal makes the following remarks regarding German commercial travelers in the Balkan Peninsula:

The great success which German trade has met with in the Balkan States is due, to a very great extent, to the manner in which German commercial travelers present and conduct themselves in making their rounds. First of all, a knowledge of languages is absolutely necessary. One can get along with French and German—90 per cent of the commercial world of the Orient speaks French. It is, of course, a great advantage if the traveler can speak with the customer in his own language. It is a well-known fact that German manufacturers send young men into these countries for two and three months in order that they may be able to perfect themselves in the native tongue and at the same time learn the habits and wants of the people. After an absence of several months they return home rich in knowledge of the people, and are naturally fully prepared to thoroughly canvass the country when they return with their samples. It is not an uncommon thing to find these young men speaking several languages. In these countries a traveling man should never visit customers on a day set aside for a festival, as they are very touchy in that regard. Politeness and patience are two very important factors which a traveling salesman must possess. The old adage, "time is money," can not be applied in these countries. One should never travel in the Balkan States without proper samples of the articles he has to sell, with the price marked on each in francs. It is claimed that English houses lose a great deal of this trade by neglecting these two important points. A close study of the credit system is also very necessary for the traveling man before starting to do business. Careful judgment should be used in hiring an interpreter. Do not try to sell a customer something which he does not want or has no use for. He does not want the best, but wants something he can sell.

J. F. MONAGHAN, *Consul*.

CHEMNITZ, GERMANY, *January 27, 1905.*

OPPORTUNITIES FOR AMERICAN CONTRACTORS.

(From United States Consul-General Guenther, Frankfurt, Germany.)

ELECTRIC SUPPLIES.

Austria.—The town of Meran and suburbs are to install electric lighting.

Brazil.—The town of San Luiz, State of Maranhao, is to have an electric-lighting plant and sewerage system.

England.—Pallock & Manab (Limited), Bradbury, Manchester, will accept proposals for furnishing them an electric traveling crane, three-motor type, to carry 10 tons.

The town of Macclessfield is to have electric works.

Mexico.—A malt factory, which will also have an electric-lighting plant, is to be erected in the State of Cueretaro by Domingo Barrios Gomez. Apply to "Secretario de Fomento," City of Mexico, for further information.

Switzerland.—The "Societa Electrica Locarnese," in Locarno, will enlarge its electric plant so as to furnish power to the industries of that district.

An organization has been formed in St. Gall and the Rhine Valley for the purpose of supplying eastern Switzerland with electricity.

RAILWAY AND TRAMWAY SUPPLIES.

Asia Minor.—The Ottoman Damascus-Hamah Railway Company (office at Beirut, Syria) will accept proposals for the delivery of 5,000 tons of coal and briquettes.

Brazil.—New railroad lines are projected from San Luiz to Caxias, and from Rio Branco to British Guiana.

Chile.—A railroad bridge across the Río Maule is to be constructed near Banco Avena, Chile. Apply to "Ministerio de Obras Públicas" in Santiago.

The Chilean Government has granted permits for constructing railroad lines to Eduardo Delano, the Antofagasta, Chile and Bolivia Railway Company, and Roberto J. Manning. Further particulars may be ascertained by applying to "Ministerio de Industria i Obras Públicas," Santiago.

Italy.—The "Societa Anomina delle Tramvie di Livorno," Leghorn, has obtained a concession for constructing a new electric tramway line in that city.

The "Societa Anomina dei Tramways Napoletani," in Naples, will construct an electric tramway from Poetici to Pugliano.

The "Compagnia Italo-Belga dei Tramways Elettrici," Verona, will construct electric street car lines in that city.

Mauritius.—The Government of Mauritius proposes to issue a loan of \$347,500 for the purpose of building tramways.

Netherlands.—The "Haagsche Tramway Maatschappij," at The Hague, intends extending its electric tramway system.

Spain.—A new electric tramway line will be built in Madrid by the "Compania Electrica Madrilena."

MISCELLANEOUS.

Austria.—A new bath house and assembly hall is to be constructed at Teplitz-Schönau.

Chile.—The harbor works of Valparaiso are to be extended. Contracts are to be awarded by April 1, 1906.

Germany.—The city of Bremen has just negotiated a loan of \$7,000,000 to be expended for harbor improvements and extension of the city's waterworks and electric-lighting plant.

The Prussian legislature has passed an appropriation of \$79,500,000, asked for by the Government, to build canals.

Italy.—The city of Pavia contemplates the erection of new gas works.

New docks are to be constructed in Venice at an estimated expenditure of \$5,000,000.

Netherlands.—The town of Goor is to have water works. Apply to Director A. Holmberg de Beckfelt, Amsterdam.

Switzerland.—The city of Berne contemplates extending its gas works at an estimated cost of \$400,000.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 13, 1905.*

MOTOR CARS FOR BRITISH RAILWAYS.

(*From United States Consul Halstead, Birmingham, England.*)

At a directors' meeting of the London, Brighton and South Coast Railroad Company, February 1, the report to the shareholders showed that there had been a decrease during the half year of nearly 1,500,000 third-class passengers carried, due mainly to tramway (street car) competition, though partly to stagnation in trade, and the chairman announced that steps were being taken to have electric traction on one section of the railway. This subject, he said, had been under consideration for some time with the view of meeting the competition of tramways and to give relief at the termini for the more rapid handling of trains. The section of their South London Railway between Battersea Park and Peckham Rye stations had been selected as a convenient piece of "line" on which to make the initial trial of electric working. Their electrical engineer had recommended that the overhead conductor (wire) system should be used, thus avoiding the dangers which had been experienced with the third-rail system where that had been used. He said the overhead system involved the introduction of other novel features, and the working would be watched with much interest, not only by shareholders of the company, but by all who were concerned with the question of electric traction on railways. One shareholder, Mr. Cohen, a member of Parliament, complained because the directors had not undertaken electrical experiments earlier, even at the risk of making mistakes, for the delay had given the electric tramways a good start and he feared that the railroad company had lost irretrievably a great amount of traffic as a consequence. The chairman in his reply said the officers could not have taken electric traction in hand earlier with a reasonable certainty of adopting a system which would have been satisfactory, and added that they were considering the question of having motor cars (self-propelled cars)

running on the rails to give a more frequent local service to the town of Worthing.

The Great Central Railroad, so the press announced lately, will soon introduce a service of steam motor cars on the section of their Liverpool and North Wales division between Seacombe and Wrexham. These vehicles, it is expected, will be worked at a cost ranging between $4\frac{1}{2}$ and 7 pence (9 and 14 cents) a mile as against 1 shilling (24 cents) per mile of the ordinary steam-driven train, and if the working of the cars between these stations justifies expectations and promotes a speedy, frequent, and economical local train service, the use of cars of this kind will be extended to other sections of the road. The cars are designed to accommodate twelve first-class passengers and their baggage. The steam engine is to be fitted with a vertical boiler of the multitubular type.

A large American electrical company has given two British manufacturers in this district each an order for gasoline motors for experimental use on gasoline-electric self-propelled railway cars in the United States.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *February 2, 1905.*

SINGLE PHASE ALTERNATING CURRENT MOTOR.

(*From United States Consul Halstead, Birmingham, England.*)

On February 2 I sent a dispatch regarding "Motor cars for British railways." The chairman of the London and Brighton and South Coast Railway Company did not state the important fact that the company's engineer had decided to adopt "the single phase alternating current system," which, according to *The Car*, "marks the dawn of a new cycle of electric traction, in this country, at least."

So far, every tube surface, overhead, or street railway which has been built for or converted into electrical operation in the Kingdom employs direct current motors and controlling gear, though the dynamos are usually of the alternating type, generating alternating current, which, from the outset, was found the more efficient and economical means of distributing energy for the purposes of traction.

The following is a somewhat nontechnical explanation given by *The Car* of the difference between and the uses of the alternating and direct current:

An electric current, whatever form it takes, may be considered analogous to a fluid, under conditions similar to those under which water flows through a pipe. By the direct or continuous current we understand a steady flow of electricity in one direction along the wire, whereas with an alternating current the direction of flow is supposed to reverse many times a second. There are different kinds of alter-

nating current, viz, single phase, two phase, and three or polyphase, which require, respectively, one, two, and three wires to carry them. The polyphase system is used on a few continental railways, and the experiments carried out on the Berlin-Zossen line, which resulted in the attainment of a speed greater than that ever attained heretofore by any living creature, were conducted by means of it. It may be remembered that when the electrification of the "Underground" was first mooted, the Metropolitan directors and their engineer supported the Ganz polyphase system, whereas those of the District Company favored the direct-current system. The dispute came before Parliament in 1901, and the arbitrator advised that the continuous-current system should be adopted on the ground that it was well tried, while the Ganz system, so far as a line carrying heavy traffic was concerned, was only experimental. Meantime American engineers have paid great attention to the development of the single-phase system, and it is now admitted that for the commercial operation of railways, which do not require schedule speeds of over 40 miles per hour, this system is better than the polyphase, and far superior to the direct current. We have already shown that electrical engineers do not dispute the fact of the alternating current being the ideal method of distribution, and they now claim for it "advantages practically in every element, from generator shaft to motor shaft, over the direct." All of our electric railways and tramways have what are termed substations along the line, where the alternating current is passed through static transformers to reduce it to the working pressure required, and then through rotary converters, which transform it into direct current, in which state the energy is fed to the conductor "third" rails, and thence to the train motors. By the use of an alternating current traction system, substations and converters, which should be looked upon merely as a useful makeshift, are abolished, while the whole method of operating the trains is rendered more economical, more efficient, and less cumbersome.

The special feature of the single-phase system is the use of single-phase alternating current in generators, transmission lines, trolleys, car equipment, and motors, the latter working from a small high-tension air line. But the only difference which the uninitiated will be able to discover between a single-phase railway and a direct-current one is that the former employs an overhead wire, like a tramway, instead of a "third" rail.

The accompanying illustration of a single-phase motor car shows it equipped with trolley poles having grooved wheels. This method of collecting the current is, however, rather out of date. The bow-shaped form of collector is now preferred, as it has the advantage over the usual trolley of properly stretching the wire and of reducing the wear of the latter, while it can not get loose or entangled with the overhead construction.

The standard direct-current system possesses several characteristics which fit it especially for railway service, and these characteristics have so far proved of sufficient importance to overbalance many defects in the system. In fact, a far greater amount of effort and engineering skill has been required for overcoming or neutralizing the defects than for developing the good features possessed by the system. Some of the undesirable features of the direct-current system are as follows: Inefficient speed control and troublesome controlling devices; limitation

of the trolley voltage to a potential of 500 volts; the destructive action known as electrolysis, necessitating very expensive constructions to eliminate or minimize its effects; and flashing and losses of electrical pressure at start.

These difficulties may now be said to have been overcome by the perfection of a single-phase alternating current motor, which, while retaining the best characteristics of the present standard direct-current motor system, but using alternating current, makes it possible to avoid all the foregoing bad features. In addition, the single-phase system, as tried on an American main line, has been found cheaper in initial cost and more economical in working, while the fact of its permitting of very rapid acceleration and slowing down of trains renders it just as applicable to urban as to suburban conditions. In a word, the resultant efficiency of the system is much better than that of the direct current. Lastly, the single-phase system can be changed to direct-current working whenever desired, though it is preferable for it to have its own lines throughout.

However, when the new system is further developed, and becomes of predominant importance, it is probable that the existing direct-current surface railways will gradually be converted to alternating current.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *February 24, 1905.*

LIQUOR MONOPOLY IN RUSSIA.

(From United States Commercial Agent Greener, Vladivostok, Siberia.)

The St. Petersburg paper, *Rooskia Vedomosti*, in an article on the results of the Government liquor monopoly, states that this monopoly, conceived and introduced by the former minister of finance, S. J. Witte, represents, together with the reforms in the monetary currency, the most important measure of the last decade.

At the introduction of the bill on liquor monopoly in the council of state, Mr. Witte's speech contained the following statement: "Only by way of monopoly can the Government derive from the tax on alcohol larger revenue than at present with the fewest inconveniences and troubles; and at the same time the monopoly offers the only restraint, in the interest of morality and the peoples' health, from the abuse of liquor consumption." So the bill had two objects in view—to increase the Government revenues and to lessen the opportunities for drunkenness.

With reference to the decrease of drunkenness, we can not state anything reliable, for we still possess too little information on the matter, but with regard to the financial part of the reform the expectations have been fully realized. The preparatory work for the introduction of the business, from 1893 to 1901, required an outlay of over \$73,000,000; the income during this same period covered not only all these outlays, but also all the running expenses, all the rebates of duty (over \$17,000,000), the sums donated to the temperance associations (about \$6,000,000), and still left a surplus of \$850,000. The State control published the results of the monopoly business for 1901. The gross income was \$81,700,000; the current business expenses amounted to

\$62,500,000, and the net profit was \$19,200,000. Besides, the excise on liquor yielded \$108,800,000.

The quantity of liquor sold from the Government stores during 1901 was 133,600,000 gallons.

Professor Hodsky, in the People's Industries, quotes the following figures concerning the monopoly during the past five years:

In 1899 the Government had 10,234 open stores for retailing spirituous beverages. During the same year 9,203 places were discovered where such liquors were secretly and illicitly sold. This is nearly as many as the number of open Government stores. The figures are impressive, and tend to make one lose faith in the moral potency of the Government's liquor monopoly.

At a conference of the agricultural committee of the district of Saratoff, the peasant members were asked to give their opinion, in detail, of the influence of the liquor monopoly on the lives of the villagers. Their unanimous declaration was as follows: (a) The decrease of drunkenness is not manifest; (b) since there are no drinking saloons, the people who will drink get drunk openly in the streets; (c) the secret and illegal sale of strong liquors is extending; (d) the rural communities have lost considerable revenue which they formerly had from licenses to saloon keepers.

The agricultural committee has decided to petition the Government to grant the village communities a certain percentage of the profits derived from the Government's sale of strong liquors for school and other public purposes.

The Russian ministry of finance is planning to increase the price of monopoly liquor (brandy) by 40 copecks a vedro (21 cents per 2.7 gallons), and to employ the additional revenue for the advancement of elementary education among the people.

RICHARD T. GREENER, *Commercial Agent.*

VLADIVOSTOK, SIBERIA, *December 31, 1904.*

DECREASED CONSUMPTION OF AMERICAN MEATS IN ENGLAND.

(From *United States Consul Day, Bradford, England.*)

For some time past there has been a steady decrease in the British consumption of American meats, i. e., hog products, while a corresponding or even greater increase has occurred in the imports of Canadian meats, and for the time being it looks as though our packers were rapidly losing the English trade. It has previously been pointed out by a correspondent that "when the American packers realize that hog products are produced to be consumed and not to gamble with, it will be better for the American provision trade." This fact is exemplified by the considerable shipments of stale and overkept meats to

this country, which has in every way helped Canadians to take a firm hold on the market. One of the leading importers says: "The Canadian, by his regular weekly shipments of a mild and well-selected meat, has met the popular taste of the north of England artisan, and close observation during the last two years leads me to think that the business will be done more largely with Canada and still less with the United States." These are points which it will be well for our exporters to take into consideration.

ERASTUS DAY, *Consul.*

BRADFORD, ENGLAND, *December 24, 1904.*

Quantity and value of exports of pork products from the United States to the United Kingdom in the years ended June 30, 1903 and 1904.^a

Products.	1903.		1904.	
	Quantity.	Value.	Quantity.	Value.
	<i>Pounds.</i>	<i>Dollars.</i>	<i>Pounds.</i>	<i>Dollars.</i>
Bacon.....	162,549,709	17,572,068	196,822,713	19,589,571
Hams.....	189,026,769	22,797,301	169,703,849	19,460,406
Canned.....			7,576,450	770,468
Fresh.....	18,528,953	1,776,478	13,999,651	1,300,855
Salted or pickled.....	52,968,687	5,815,823	58,477,491	5,236,881
Lard.....	196,458,773	20,747,232	199,015,559	16,176,939
Total.....	619,532,891	68,708,922	645,595,713	62,434,925

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

Quantity, value, and price per pound of imports of pork products into the United Kingdom from the United States and Canada in 1903.^a

Products.	Quantity.		Value.		Price per pound.	
	United States.	Canada.	United States.	Canada.	American.	Canadian.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Cents.</i>	<i>Cents.</i>
Bacon.....	324,072,784	75,507,888	35,870,621	8,232,595	11.07	10.90
Hams.....	165,186,928	22,119,664	12,665,816	2,552,684	12.04	11.54
Fresh.....	14,681,840	71,088	1,555,499	8,568	10.59	12.66
Salted, other than bacon and hams ^b	10,180,120	770,455	1,559,936	116,642	15.32	14.75
Lard.....	178,083,248	14,275,632	17,291,784	1,369,161	9.71	9.38
Total.....	632,204,920	112,744,727	68,943,656	12,279,650	10.90	10

^a From British official statistics.

^b The imports of salted and pickled pork do not seem to be definitely stated in the British returns. In this case other salted meats than pork must be included, while under the head of "Meats, unenumerated, salted or fresh," salted pork is doubtless included. "Meats, unenumerated, salted or fresh," were imported from the United States to the amount of 20,071,744 pounds, valued at \$1,380,655, and from Canada 623,728 pounds, valued at \$51,190.

COMMERCIAL RELATIONS OF AUSTRIA-HUNGARY AND GERMANY.

(From United States Consul Hossfeld, Trieste, Austria.)

Germany is at present negotiating with Austria-Hungary for a new commercial treaty. The new German customs tariff was adopted with a view to affording greater protection to the agricultural products of the Empire without jeopardizing the foreign markets for its manu-

facturers. So far Germany has succeeded in concluding, on the basis of its new tariff, reciprocity treaties with Russia, Italy, Switzerland, Belgium, Servia, and Roumania. It is now believed that the negotiations with Austria-Hungary will eventually be brought to a successful issue, although there have been repeated and serious signs of miscarriage.

The articles still in controversy are cattle, flour, and malt, of which Austria-Hungary has in the past had a considerable export to the German States and for which it demands lower rates of duty than Germany has so far been disposed to concede.

It may be interesting to examine the present exchange of commodities between the two countries.

In 1903 the total value of imports from Germany into Austria-Hungary was 695,000,000 crowns (\$141,085,000), of which the imports exempt from duty amounted to 327,000,000 crowns (\$61,381,000); Articles of manufacture participated therein to the amount of over 306,000,000 crowns (\$62,118,000), and products of agriculture to somewhat less than 62,000,000 crowns (\$12,586,000).

The total value of the exports from Austria-Hungary to Germany in 1903 was 1,009,000,000 crowns (\$204,827,000), of which exports subject to duty in Germany amounted to 773,000,000 crowns (\$156,919,000); 608,000,000 crowns (\$123,424,000) of these represented products of the field and forest, and the remainder, viz, 165,000,000 crowns (\$33,495,000) products of the factory.

While Austria-Hungary thus finds an outlet in Germany for \$123,424,000 worth of the surplus products of its soil, Germany sells to Austria-Hungary \$62,118,000 worth of its manufactures.

The following table shows the exchange of the principal commodities between the two countries:

Value of exports from Austria-Hungary to Germany that are in excess of imports into Austria-Hungary from Germany, 1903.

Commodity.	Exports from Austria-Hungary to Germany.	Imports into Austria-Hungary from Germany.	Excess exports from Austria-Hungary.
PRODUCTS OF FIELD AND FOREST.			
Cattle	\$24,522,400	\$629,300	\$23,893,100
Wood and lumber	24,217,900	345,100	23,872,800
Grain	22,370,600	162,400	22,208,200
Animal products	23,263,800	1,614,300	21,649,500
Fruit and vegetables	13,012,300	4,486,300	8,526,000
Animals, other than cattle	4,526,900	913,500	3,613,400
Beverages	3,613,400	710,500	2,902,900
Lard and tallow, etc	2,943,500	1,918,800	994,700
MANUFACTURES.			
Linen goods	3,978,800	893,200	3,085,600
Leather ware	3,978,800	913,500	3,065,300
Glass and glassware	2,314,200	426,300	1,887,900
Clothing	3,958,500	2,192,400	1,766,100
Wood and bone ware	2,233,000	1,319,500	913,500

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Value of imports into Austria-Hungary from Germany that are in excess of exports from Austria-Hungary to Germany, 1903.

Commodity.	Imports from Germany into Austria-Hungary.	Exports from Austria-Hungary to Germany.	Excess of imports from Germany over exports from Austria-Hungary.
Machines.....	\$6,252,400	\$609,000	\$5,643,400
Woolen goods.....	5,724,600	1,177,400	4,547,200
Leather.....	4,872,000	609,000	4,263,000
Paper and paper ware.....	5,399,800	1,664,600	3,735,200
Instruments.....	7,571,900	3,877,300	3,694,600
Chemicals.....	4,851,700	1,908,200	2,943,500
Iron and ironware.....	4,242,700	1,522,500	2,720,200
Silk goods.....	4,384,800	1,989,400	2,395,400
Metal ware.....	2,343,500	1,969,100	374,400
Cotton goods.....	2,314,200	791,700	1,522,500
Furs.....	2,192,400	487,200	1,705,200
Chemical by-products.....	2,030,000	1,603,700	426,300
Rubber goods.....	1,563,100	507,700	1,055,400
Stoneware.....	913,500	466,900	446,600

FREDK. W. HOSSFELD, *Consul.*

TRIESTE, AUSTRIA, *January 28, 1905.*

SCARCITY OF APPRENTICES IN THE UNITED STATES.

(From United States Consular Clerk Murphy, Frankfort, Germany.)

As the opinion of a competent and disinterested foreign expert is always of interest, the following condensation of a lecture recently delivered before the Technical Club in Frankfort by Director Back, of the Frankfort Industrial School, may prove suggestive and of practical value. Mr. Back was one of the commissioners sent by the German Government last summer to visit the St. Louis Exposition and to gather material for a report concerning industrial conditions in the United States. According to Director Back, the subject of training industrial and technical apprentices does not receive in the United States the same general and widespread attention as in Germany:

In America a young man has much less opportunity than in Germany to learn in a practical way all the details of a trade, and thus to become a skilled workman in a thorough sense of the term. This is largely due to a difference of systems, the general tendency in the United States being to reduce prices by almost entirely substituting machinery for hand work, by using a limited number of designs, and by manufacturing in immense quantities. Consequently a workman usually becomes familiar with only one of the many details of manufacture and seldom has an opportunity to follow an article through all the different processes required for its completion. Moreover, there is little occasion for hand work except in connection with repairs.

Nevertheless it is always necessary to have a few trained workmen to attend to the final adjustment of parts and to put the finishing touches to a completed product. The scarcity of such skilled workmen is now being complained of more and more in the United States.

Most owners of small establishments which still employ hand workers, especially those in large cities, are unwilling to take the trouble and assume the responsibility of training apprentices. This training is done, if at all, principally in small towns or in the country. Consequently the United States is now unable to supply its own demand for skilled laborers, the best trained men being largely immigrants from Europe, and especially from Germany.

As this scarcity is at last being recognized as a weak point in the industrial development of the United States, efforts of various kinds are now being made to provide means for increasing the number of apprentices and for instructing them and other young men in a manner which will prove later on advantageous both to them and to the manufacturing interests of the country. A well-known firm in Philadelphia, for instance, now accepts three classes of apprentices, who are paid according to the quality of their preparatory education, and who, after they have been systematically and thoroughly trained, are given regular and profitable employment. There have been established also, especially in the Eastern States, a number of good industrial schools, where young people of both sexes are instructed in various kinds of useful hand work.

Some of the States have provided excellent legislation relating to apprentices, but this has heretofore been of little use, owing to general indifference on the subject and to the unwillingness of employers to train apprentices and develop them into skilled workmen. Moreover, the Government itself has not set a good example in the matter to manufacturers, for in its own unusually well-arranged workshops no apprentices are employed.

GEORGE H. MURPHY,
Consular Clerk.

FRANKFORT, GERMANY, *February 17, 1905.*

AMERICAN AND GERMAN PROGRESS.

(From *United States Consul Winter, Annaberg, Germany.*)

A writer in a recent issue of the *Reichsbote*, of Berlin, draws comparisons between the United States and Germany as regards natural products and industry. After referring to the commercial and industrial "opposition" of both countries (which the writer expressly wishes to be understood in the sense of friendly rivalry), he is confident that, provided no labor troubles, artificially conjured, intervene, the United States and Germany will continue their friendly competition and, as it were, extend their commercial relations all over the globe; although he concedes that America has a good start, especially in eastern Asia.

The writer gives statistics concerning production in the United States, viz:

Production of leading commodities in the United States in 1850 and in 1903.

Commodity.	1850.	1903.	Increase.
Wheat..... bushels..	100,000,000	637,000,000	537,000,000
Indian corn..... do..	592,000,000	2,244,000,000	1,652,000,000
Wool..... pounds..	52,000,000	316,000,000	264,000,000
Cotton..... bales..	2,300,000	10,700,000	8,400,000
Petroleum..... gallons..		8,707,000,000	3,707,000,000
Coal..... tons..	3,000,000	269,000,000	266,000,000
Crude iron..... do..	550,000	18,000,000	17,450,000
Copper..... do..	110,650	294,000	183,350
Sugar..... do..	110,000	310,000	200,000

The number of hands employed in the industries represented was 957,000 in 1850 and 5,700,000 in 1903. The amount of wages paid was \$236,000,000 in 1850 and \$2,735,000,000 in 1903.

The value of the foregoing products was \$1,019,000,000 in 1850 and \$13,039,000,000 in 1903. In 1903 there were 198,750 miles^a of railroads in the United States, against 9,000 miles in 1850.

While these statistics show a marvelous expansion of industrial progress, there seems to be no halting point, at least in the near future.

JNO: F. WINTER, *Consul.*

ANNABERG, GERMANY, *February 15, 1905.*

INDUSTRIAL DECORATIONS.

(From United States Consul McNally, Liege, Belgium.)

The Belgian Government as a means of encouraging workingmen to a faithful and continued service in the same establishment has instituted a system of industrial decorations under certain prescribed conditions. They are, first, that the person selected for the honor must have been in the continued employment of one firm or manufactory for a period of not less than twenty-five years, and, second, that the candidate must be recommended to the Government by his employer for faithful application and service during that period.

The limitations are, that only one candidate for every 100 workmen in each establishment may be selected yearly, if the period of service is twenty-five years; if the term of employment reaches thirty years, one candidate for every 25 workingmen may be selected, and the employers must petition the Government within a certain time, naming the persons on whom they wish the distinction or decoration to be conferred.

This governmental recognition of continued and faithful service is securing a system of labor usefulness to the manufactories that is far-

^a According to data of the Bureau of Statistics, Department of Commerce and Labor, there were 207,604 miles of railway in the United States in 1903.

reaching in its influence. The industrial decoration is considered by the workmen as a signal distinction of merit that is worth striving for, and the evidence of its value to them can be noticed in every workshop of any note throughout the province of Liege. It is not an uncommon sight to see three generations working side by side. While the personnel of large manufacturing institutions is made up of men of all ages, many of the trusty ones still maintain their usefulness at 80 years of age.

Whether on account of striving for this decoration or that it is the natural disposition of the laboring men in this district, an atmosphere of contentment reigns throughout the workshops, even though wages are a mere pittance compared to the wages paid American employees. The wages seem sufficient, however, to satisfy the modest wants of the workmen, and that they make the most of their environments is plainly evidenced by the happiness of their everyday lives. Strikes are not prevalent in Liege. This condition of labor and this tranquillity is said to be due to the encouragement of the Government in rewarding long and faithful service.

JAMES C. McNALLY, *Consul.*

LIEGE, BELGIUM, *February 13, 1905.*

PROBABLE ORIGIN OF "YANKEE DOODLE."

(From United States Consul Schumann, Mainz, Germany.)

The following is a translation of an article from the Frankfurter Zeitung:

In the publication *Hessenland* (No. 2, 1905), Johann Lewalter gives expression to his opinion that "Yankee Doodle" was originally a country dance of a district of the former province of Kur-Hesse, called the "Schwalm."

It is well known that the tune of "Yankee Doodle" was derived from a military march played by the Hessian troops during the war of the Revolution in America. In studying the dances of the Schwalm, Lewalter was struck by the similarity in form and rhythm of "Yankee Doodle" to the music of these dances. Last year, at the "kirmess" of the village of Wasenberg, when "Yankee Doodle" was played, the young men and girls swung into a true "Schwälmer" dance, as though the music had been composed for it. During the war of 1776 the chief recruiting office for the enlistment of the Hessian hired soldiers was Ziegenbain, in Kur-Hesse. It, therefore, seems probable that the Hessian recruits from the "Schwalm," who served in the pay of Great Britain in America during the Revolutionary war, and whose military band instruments consisted of bugles, drums, and fifes only, carried over with them the tune, known to them from childhood, and played it as a march.

WALTER SCHUMANN, *Consul.*

MAINZ, GERMANY, *February 13, 1905.*

QUICK BREAD-MAKING PROCESS.*(From United States Consul Mahin, Nottingham, England.)*

Many letters of inquiry have been received at this consulate regarding a quick bread-making process described in a report contained in Daily Consular Reports, No. 2095, October 31, 1904. The following additional particulars, taken from the London Times, will give information desired by inquirers:

By a method now being introduced by the Quick Bread Company, which has a bakery at 23 Molyneux street, Edgware road, it is claimed that bread can be made much more quickly than by the procedure usually employed—in three and one-half or four hours, against ten or twelve—and that a given weight of flour yields a larger weight of bread, five or six loaves more per sack of flour. The materials used are the same as in ordinary bread making, without preliminary mashes or “bread improvers,” and the better results claimed are attributed in the main to the supersession of common rough and ready empirical methods by systematic and scientific regulation of the temperature at which the fermentation is carried on, so that the fermentative process is rendered at once more rapid and more complete. A further advantage of bread made in this way is stated to be that it has remarkable keeping qualities, loaves over a week old still being sweet and retaining their moisture, and consequently their weight, to an unusual extent.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *February 16, 1905.*

RAILROADS AND FERRIES IN VANCOUVER.*(From United States Consul Smith, Victoria, British Columbia.)*

I am assured by one of the leading officials of the road that on February 1, 1905, a contract was made by Mr. James Dunsmuir, president and sole owner of the Esquimalt and Nanaimo Railway, with leading officials of the Canadian Pacific Railway Company, for the absolute transfer to the latter of the Esquimalt and Nanaimo Railway system. This includes the railway line from Victoria to Wellington, a distance of 78 miles, with equipment, rolling stock, and right of way; the ferry business operating between Vancouver and Ladysmith by means of the tug *Czar* and barge; the steamer *Joan*, which plies between Nanaimo and Vancouver; and the steamer *City of Nanaimo*, running among the Gulf islands from Victoria to Comox, including boats and barges plying on the east coast of Vancouver Island. The consideration, which is not definitely made public, it is stated amounts to over a million dollars. It is authoritatively stated that the deal does not include the land in the railway belt owned by Mr. Dunsmuir, which amounts to about 1,500,000 acres. The original grant was

2,000,000 acres, but 500,000 acres have been sold. This land will remain in the possession of Mr. Dunsmuir, as also will the Wellington coal mines of Vancouver Island.

It is expected that this important transfer will lead to the early extension of the Island Railroad from Wellington to Cape Scott, at the extreme north. Residents of Victoria also hope, now that the British Navy no longer monopolizes the harbor at Esquimalt, that the Canadian Pacific Company will run a car ferry direct, without necessitating change of cars from Vancouver, connecting with the Esquimalt and Nanaimo Railway at Ladysmith, thence to Esquimalt, where passengers will be transferred direct to the ocean steamers, known as the "Empresses," for the Orient; also that these steamers will dock at and sail to and from Esquimalt, thus dispensing with the 80-mile passage through the Georgia Straits to Vancouver, and help to build up trade at Victoria, where the Canadian Pacific Railway Company is now erecting a large up-to-date hotel. Victorians hope that the future western terminus of the Canadian Pacific Railway will be at Esquimalt.

It is announced that on May 1 the Canadian Pacific Railway steamer *Princess Victoria* will resume her daily run from Vancouver, via Victoria, to Seattle and return. It is also stated that the same company, as soon as the legal transfer of the Esquimalt and Nanaimo Railway is completed, will erect large additional wharves both at Esquimalt and Victoria.

ABRAHAM E. SMITH, *Consul*.

VICTORIA, BRITISH COLUMBIA, *February 14, 1905.*

CANADIAN LUMBER TRADE IN 1904.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The Canadian lumber industry did not have a prosperous year in 1904, according to the annual review in the February number of the Canadian Lumberman. This authority says:

Uncertainty characterized the lumber trade of Canada during 1904. Confidence was lacking on all sides, and there was a strong inclination toward conservatism. The record, therefore, is unfavorable in comparison with 1903. The two most important influences were the commercial depression in Great Britain, which was more severe in lumber than in many other commodities, and the Presidential election in the United States.

Lumber prices in the British market declined steadily during the first six months of the year, and shippers who had contracted for stock at the higher prices ruling in the winter of 1903-4 were face to face with very small profits, and in some instances with actual loss. The result was an early decision to restrict shipments as far as possible, which action was responsible for a partial recovery in the British market toward the close of the year. The import into the United Kingdom

from all countries was 9,306,278 loads, as compared with 10,108,564 loads in 1903. The London import was exceptionally light, being more than 8,000,000 pieces less than in the previous year.

The Presidential election ceased to be a market influence early in the autumn, but during the summer months the lumber demand in the United States reached a low point, and the manufacturers, in order to preserve their home market, exported largely to Canada. This competition was felt keenly in the West, and in many instances the imported lumber was sold below the cost of production.

The exports from the State of Washington are an indication of the extent to which American lumber was shipped into this country. The shipments via the Canadian Pacific Railway were 1,962 cars of lumber, as compared with 632 cars in 1903 and 823 in 1902. Calculating on 10,000 feet to the car, the Canadian Pacific Railway brought into Canada last year from Washington alone 19,626,000 feet of lumber.

The export trade of the year shows a considerable decline in the shipments from Montreal and other St. Lawrence ports, being 152,000,000 feet less than in 1903. New Brunswick is responsible for a falling off of 30,000,000 feet, and British Columbia for approximately 20,000,000 feet.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *February 20, 1905.*

GERMAN TRADE EFFORTS IN ARGENTINA.

(From United States Consul Monaghan, Chemnitz, Germany.)

There seems to be no end to the amount of energy put forth by the Germans to obtain and hold Argentine trade. On September 20, 1904. Doctor Vallentine invited the German importers of Argentina to meet him at the Royal Hotel, Buenos Aires, to discuss trade matters. The German minister, consul-general, and commercial attaché were present, and in a few words Doctor Vallentine explained the object of the meeting to be the organization of a society to protect German interest and to extend and hold the trade which had already been established. Such an organization, he claimed, would be an advantage to every individual member and, at the same time, to the industry of the fatherland. If well capitalized, it would be beneficial in increasing industrial and agricultural undertakings, and would be conducive to colonization. Argentina offers a very productive field for organized effort, but a sound basis, on which the organization should be established, was necessary. A commission was appointed to prepare such a basis. The name adopted is "Deutsche Gesellschaft für wirtschaftliche Unternehmungen in Argentinien". (German Society for Industrial Undertakings in Argentina). On the 27th of the same month a second meeting was called, at which Doctor Vallentine was appointed to look after the interests of the organization in Europe.

This is another instance of Germany's desire to widen its field of operation. The success of the undertaking is assured, as it has the

moral and financial support of the home Government and the industrial interests of Germany. It will establish another outlet for the ever-increasing population of the Empire, and it will give a certain security to the increasing capital which is being invested in Argentina.

J. F. MONAGHAN, *Consul*.

CHEMNITZ, GERMANY, *January 30, 1905.*

BUTTER AND MARGARINE FOR MALTA.

(*From United States Consul Grout, Valetta, Malta.*)

I believe that if the matter is at once taken up there is an excellent market here for American butter and margarine. I have seen, when at home, a very good article of butter put up in tins of various weights that ought to prove salable here. Most of the great quantity of margarine consumed here comes from the Netherlands. I know of no good reason why the American article should not compete favorably. Owing to the fact that butter and margarine are not dutiable, no record is kept by the local customs authorities of the amount imported and I can not present statistics as I would like. I know of several firms here which I think would be interested in our goods, hence if any American houses, dealing in the products named will take the trouble to send me price lists, giving lowest export terms, I will see that they are placed in proper hands. We now have direct communication between New York and Malta, and this makes possible a market for many lines of our goods that otherwise we could not hope for. There is not enough butter made here to supply the demand of consumers, and large quantities come from Australia, England, and France. Owing to the climate and lack of refrigerating facilities, small packages are preferable. Most of the local butter product is made from goat's milk and is used at once, unsalted.

JOHN H. GROUT, *Consul*.

VALETTA, MALTA, *February 3, 1905.*

WHEAT FROM INDIA IN SPAIN.

(*From United States Consul-General Ridgely, Barcelona, Spain.*)

The most important recent feature of the port of Barcelona has been the presence of unusually large quantities of wheat in the warehouses on the quays. At this writing it is estimated that no less than 100,000 tons are awaiting transportation to the mills and warehouses of the city and the interior. This unusual importation is due to the two successively poor wheat harvests of 1903 and 1904 in Spain, and it is now believed that the harvest of 1905 will not be good, owing to the lack of rain up to this time.

A striking feature of the recent movement is the presence of wheat from India in the imports for the first time. Much interest has been aroused in consequence. Wheat having been very abundant and cheap in the Bombay Presidency and freights from India to Spain unusually low, merchants found that they could sell Indian grain in Barcelona at a rate that enabled them to compete with wheat either from the Black Sea or the Danube countries. This branch of the grain trade is controlled by the well-known firm of Ralli Brothers, of London, Marseille, etc. The rate of freight has been about 18s. to 20s. (\$4.37 to \$4.86) per ton of 1,015 kilos (2,238 pounds).

During the last quarter of 1904 about 112,000 tons of wheat were brought into Barcelona, as follows: From the Black Sea and the Danube, in 39 steamers, under Greek and Italian flags, 82,500 tons; from India (Bombay district), in 5 steamers, under British flag, 22,700 tons, and from Australia, in 1 steamer (British), 7,000 tons.

In this connection it may be stated that Barcelona millers are about to petition the Spanish Cortes to rebate the duty on wheat ground into flour for export. In other words, Spanish millers are beginning to think seriously of exporting in large quantities flour ground from imported wheat.

BENJ. H. RIDGELY, *Consul-General*.

BARCELONA, SPAIN, *February 7, 1905.*

INTERNATIONAL COMMERCIAL EXCURSIONS.

(From *United States Consul-General Guenther, Frankfurt, Germany.*)

Last year a large number of English merchants and manufacturers went on a tour of inspection of industrial establishments, trade schools, etc., of France. They were cordially received and liberally treated by French chambers of commerce, municipal authorities, and by prominent French manufacturers and business firms. This friendly visit was returned by French representatives of commerce and industries.

Much good feeling and valuable information resulted from these international excursions.

According to London accounts, British merchants and manufacturers contemplate a similar excursion to Germany this year, during May or June. Already 200 participants have announced themselves. German trade papers comment upon this news with lively satisfaction, and there is no doubt that these British "trade ambassadors" will be received with great distinction and hearty good will by German authorities and business circles.

Meetings of this sort do much good. They help to engender friendly feelings among competing nations, remove false conceptions

or sectional prejudices, increase business relations, and afford much instruction to the excursionists. It would be well if our American manufacturers and exporters would make excursions to European countries. Trips of the kind would afford them vast opportunities for informing themselves about foreign markets and how to increase commercial relations therewith.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 8, 1905.*

NEW INDUSTRIES IN WEST AFRICA.

(*From United States Consul Mahin, Nottingham, England.*)

The Nottingham Guardian says that information has been received by the British foreign office that the department of agriculture of French West Africa has supplied the weavers of Lyon, France, with a new kind of cocoon from which they can wind silk. It is explained that in the recently acquired French territory in the Ivory Coast hinterland, at Segou, the former seat of a native ruler on the upper waters of the Niger, there abounds a moth, the *Atiacus bauhinia*, which feeds on the leaves of the jujube tree (*Zizyphus orthacantha*). The cocoon of this moth has been experimented upon with such success, despite preliminary difficulties in unwinding, that a second supply of about 4 hundredweight of cocoons is to be sent to Lyon for further trial.

The same newspaper noting that the Brazilian Government prohibits the export of the seed of the hevea, which produces Para rubber, says that nevertheless some of the seeds have found their way into France; that plants have been raised therefrom, and that experimental plantings in West Africa have been successful. This year, it is announced, plantations on a commercial scale are to be made in the Gasamaïne district of Senegal, to be extended, as seeds multiply, there and in Lower Guinea and Lower Dahomey. It is reported that in time extensive districts now worthless will become productive of Para rubber.

FRANK W. MAHIN, *Consul.*

NOTTINGHAM, ENGLAND, *February 7, 1905.*

BANANA TRADE OF GREAT BRITAIN.

(*From United States Consul Taylor, Glasgow, Scotland.*)

Prior to 1901 consumption of bananas in the United Kingdom was very limited. In addition to the difficulty of shipping them the price was more or less prohibitive. In 1901 Elder, Dempster & Co. entered into an arrangement with the colonial office whereby boats properly equipped made regular and speedy trips from Jamaica, landing the

fruit at Bristol every fortnight. The demand increased so rapidly that supplemental boats were put on both for Bristol and Manchester. At the present time the principal banana dealers have a fleet of seven ships employed exclusively in this trade, and three more ships are being built for it. When these are put in commission four cargoes will be discharged each fortnight—two in Bristol and two in Manchester. An average cargo contains 40,000 bunches, and this works out to 80,000 bunches per week for this country, or about 10,800,000 bananas weekly. This, however, is for the winter only, as from May to November the demand doubles. The fruit when landed is green and starchy, and is hung in rooms specially prepared and maintained at a certain temperature and kept there from ten days to a fortnight, when it is ready for distribution at about 1 cent per banana.

SAMUEL M. TAYLOR, *Consul*.

GLASGOW, SCOTLAND, *February 14, 1905.*

During the year 1903, according to British official statistics, the imports of bananas into the United Kingdom amounted to 3,087,516 bunches, valued at \$5,824,714—imported from the Canary Islands, 1,941,472 bunches, valued at \$4,423,162; British West Indies, 682,888 bunches, valued at \$740,494; Costa Rica, first imports, 440,934 bunches, valued at \$608,825; Madeira, \$52,333.—BUREAU OF STATISTICS.

AUTOMOBILE EXHIBITION AT BERLIN.

(*From United States Consul-General Mason, Berlin, Germany*)

The Fourth International Automobile Exhibition, which was opened at Berlin with imposing ceremony February 4, has just closed after a fortnight of popular interest and material success that far surpassed those of any previous expositions of its kind in Germany. The first automobile show held in Berlin was at the Exercir-Haus on Karl strasse, in September, 1899. Two years later a second display took place, in close, limited quarters on Georgen strasse, where want of adequate space, light, and other essential conveniences restricted the event to a meeting of manufacturers, each eager to see and talk over what his competitors had done. The third event of the series was opened by Prince Henry of Prussia on March 8, 1903, at the "Flora," a large restaurant and music pavilion in a public garden in Charlottenburg, where all the conditions were much more favorable, and the exhibition, which was supplemented by a brilliant night parade of the collective automobile clubs of Germany, achieved for the first time a distinct popular success.

The exhibition of this year has taken place in a large group of buildings in a centrally located public garden known as the "Landes Ausstellung Park," where the annual art salon and various casual industrial expositions are held. Although nominally and in purpose an international exhibition, it has been essentially a German display, and as such has been a striking and conclusive proof of Germany's rapid advance to a place in the first rank of nations in this new and important field of manufacture.

There were 115 exhibitors at the exposition of 1903. The one of this year brought together 320 distinct exhibits, shown by 298 firms, companies, and individual manufacturers. Of this number, 270 exhibitors are located in Germany, of which 112 were in Berlin and its immediate neighborhood. Of the remainder, 13 exhibitors were from France; 5 from Austria-Hungary; 3 from Great Britain, and 3 from Switzerland. This classification designates only the nationality of direct exhibitors and does not explain the large number of important units, especially machinery and motor-vehicle materials made in other countries and exhibited by German firms and companies who are the permanent agents for the sale of such products in Germany. Thus the Lozier Motor Company, of Hamburg, a German firm, exhibits a Lozier motor and motor boat, as well as several Baker electric carriages of the runabout, imperial, and Stanhope types, a most interesting and varied display, all of which were made in the United States, but exhibited under the name of the foreign agents. Similarly, Messrs. Schuchard & Schütte, of Berlin, exhibited a fine collection of American machinery—lathes, boring and milling machines, etc.—for making special parts of motor vehicles. These machines came from Providence, Cincinnati, and other places in the United States, and, being largely automatic and exhibited in operation, formed a display of absorbing interest, not only to workmen from various automobile factories, but to the general public, including many women, who stood patiently in the crowd, watching the marvelous machines doing their delicate, unerring work with almost human precision and intelligence.

In estimating the general character and significance of the exhibition just closed, experts lay special emphasis on two facts. The first was the large number of vehicles for all purposes—racing, touring, and everyday city use—which, in all essential respects, approach closely to the Mercedes type. Of the dozen or more leading German makers, practically all have adopted the pressed-steel frame, the same arrangement as to location of principal working parts, the same measurements for machines of any given horsepower, and similar models of bodies and tops. The Daimler display, like that of the New Automobile Company of Berlin, included a full line of vehicles for all purposes, from the 90-horsepower racer to an automobile delivery wagon. The latter company exhibited, also, an improved type of the motordroschies, which have become so common and popular in Berlin as to suggest

that the time will come, and probably at no remote date, when the one-horse taximeter fiacre, which is now so cheap and serviceable, will be wholly replaced by the cleaner, more compact, and far speedier motor cab.

The second dominant fact has been the large proportion of vehicles of various types with hydrocarbon motors for various industrial, military, and business purposes. Nothing approaching this array of motor omnibuses, drays, heavy transport wagons, and delivery vans has ever been seen in this country before. The development in this direction is peculiarly German, in that it is devoted to facilitating and cheapening the transaction of business, rather than to luxury or sport. Nothing was more interesting than to see the crowds of merchants, manufacturers, and business men of all classes, around these new transport vehicles, discussing eagerly their merits and economies as compared with horsepower. All the large department stores in Berlin, several breweries, besides furniture dealers, wine merchants, even milk companies, now employ delivery wagons with steam or benzine motors, while the municipal spirit is so earnestly in favor of cleanliness in the public streets that every favor and advantage is granted to the new vehicles.

Comparing the most salient aspects of this exhibition with that of 1903, the most noticeable features of improvement have been:

(1) The use of ball bearings, wherever they can be advantageously applied to reduce friction in the working parts of the machine. This was an original German idea, and was first applied to one of the early high-powered Mercedes cars. Now all the German machines and all but the low-powered French ones have ball bearings throughout.

(2) Another novel feature is the variety and ingenuity of the automatic oilers. Nearly every important motor-car builder has developed some new idea about oilers, the problem being to devise one which will do its work quietly, economically, and infallibly without watching. Among the new oilers displayed is one which instead of pumping the oil in a small steady stream spurts or injects it intermittently toward the working parts, whereby, it is claimed, the lubrication is made more efficient.

(3) Still another important feature is the all but universal use of the pressed steel frame or "chassis" and the great improvement manifest in the lightness, strength, and finish of these parts. To make such frames as are now used requires ponderous and expensive machinery, but the results which are achieved would seem to fully justify the means by which they have been attained. But one of the leading German makers, Otto Beckmann & Co., of Breslau, and the De Dion Company, of France; still adhere to the system of tubular frames which three or four years ago was all but universal.

The ventilating fan for cooling the motor is now applied to practically every type of vehicle, from the high-powered racing car to the tricycle delivery constructions used by bakers, druggists, confectioners, and other small tradespeople; and the later tricycle delivery constructions were exhibited in large numbers and variety of form and purpose. The motor bicycle was also present in strong force from makers like Dürrkopp, Opel, and the Adler works at Frankfort, all of which, having been originally bicycle manufacturers, have given great attention to the motor-driven wheel, now that the heyday of the pedal-propelled "safety" is definitely past.

The chief interest of the exposition has been as a demonstration of the solid, substantial, and rapid progress of the German automobile industry from the tentative, subordinate position which it occupied four years ago to a place in the front rank of nations. It has been from a business point of view by far the most successful exhibition of its kind ever held in Germany. Buyers came from far and near, and hundreds of people, who had been waiting for improvements in construction and for reduced prices, spent their days at the show looking and comparing, and generally ended by buying. The Mercedes agent sold every automobile on his stand, some of them six or seven times over. Another German maker sold a 5,000 mark (\$1,191) 16-horsepower car twelve times. The Daimler Company is reported to have booked orders for over one hundred omnibuses and other business vehicles for Great Britain. The German Emperor, Prince Henry of Prussia, and a long list of members of the German nobility bought one or more cars, generally of the larger sizes, with covered seats for from four to eight persons. The net result has been to give not only the German automobile industry a great impetus, but to stimulate and popularize automobiling as recreation, sport, and means of transportation for the ordinary, everyday life of the people to an extent never attained in this country before.

Among the more spectacular features of the display were several winning cars in notable international contests—the Richard-Brasier machine, which won the Gordon-Bennett cup at Hamburg last June; a Mercier which had won the blue ribbon at Ormond Beach, and a Napier covered with garlands and trophies won in France and the United States. A few motor boats were also displayed, of which the most notable was the *Zaritzka*, a 5,000 horsepower racing boat, carrying a Loutzky engine, built at the Howaldtswerke in Kiel. This boat has a recorded speed of 30 knots an hour and is expected to make a brilliant record at the Kiel races next summer.

FRANK H. MASON, *Consul-General*.

BERLIN, GERMANY, *February 27, 1905.*

SCHOOLS FOR AUTOMOBILISTS.*(From United States Consul-General Rublee, Vienna, Austria.)*

With the more general use of automobiles in European countries the desirability of giving special instruction and training to chauffeurs and others concerned with the manipulation and construction of automobiles has been considered by the directors of technical schools.

Already there are two special courses of instruction provided for automobilism, one at Aschaffenburg, Germany, and the other at Brussels, Belgium. A third school is to be established in Vienna next October, in connection with the Technological Trade Museum, which is the most advanced trade school of the city. It is proposed to provide two courses, one for chauffeurs, who are to be taught all the practical details relating to automobiles and their construction as well as the laws of various countries concerning the right of way, driving regulations, etc.; the other course being designed more particularly for the education of mechanics in the construction of automobiles. There will be both day and night courses, the former for a period of three months with daily instruction, and the night course for a period of six months, with two hours of instruction on four evenings of each week.

The Automobile Club of Vienna has taken special interest in the proposed school, and the ministry of war has offered to place a special road or track at its disposal for the operation of automobiles. The courses will be thorough and the graduates will doubtless be preferred by employers.

W. A. RUBLEE, *Consul-General.*

VIENNA, AUSTRIA, *February 6, 1905.*

ARTIFICIAL SILK FACTORIES OF FRANKFORT, GERMANY.*(From United States Consul-General Guenther, Frankfort, Germany.)*

The recently published statement of operations in 1904 of the United Artificial Silk Factories of Frankfort sustains reports of this consulate for the past three years on the demand for the new artificial silk product and the desirability of manufacturing it in the United States.

The company has a share capital of 3,000,000 marks (\$714,000), which for the year 1904 yielded net profits of 2,377,911 marks (\$565,943). The gross earnings were 4,102,853 marks (\$976,479). In addition the company has a reserve fund of 971,080 marks (\$231,117) and has written off a large amount from the cost value of its manufacturing plant.

The new and largest factory of the company began operations in

July, 1904, but its productive capacity will be doubled in 1905. This prospective increase of profits and the dividend of 35 per cent declared on the 3,000,000 marks (\$714,000) share capital has caused a considerable advance in the market price of the stock, which at this date is 548 marks (\$130). The nominal or par value is 100 marks (\$23.80).

The company's report states that there is a steadily increasing demand for this silk in the United States, which has caused the company to contemplate the erection of a branch factory there. The company will also erect a factory in Italy during the present year. The United States is one of the largest customers for artificial silk, consequently it pays a heavy tribute in importing it from Europe. By manufacturing the article at home this tribute would not only be saved, but American capital and labor would soon succeed in making artificial silk not only for the home market but for export.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 14, 1905.*

RAILWAYS AND TRAMWAYS IN FORMOSA.

(From United States Consul Fisher, Tamsui, Formosa.)

From January 1, 1905, full forces have been working day and night on the construction of the section of the Formosan government railway from the Dakusui River to Koroton, 40 miles, with the expectation of opening it to traffic by the 1st of April next. This section is a northern extension of the southern division. The principal difficulty that presents itself in this work is the crossing of the Dakusui River. A temporary wooden bridge, composed of three sections, has been constructed over this stream, but it is probable that the structure will be swept away by the floods from the heavy rainfall during the summer. On account of the force of the current during these floods and the continual changing of the channel the engineers have not as yet been able to decide upon a satisfactory plan for the construction across the stream of a permanent steel bridge, which will require a length of about 4,000 feet. However, experimental piers are soon to be constructed, which, if found satisfactory after a fair test, will be adopted in the erection of the bridge.

Upon the completion of this section there will still remain a gap of about 9 miles between the northern and southern divisions of the railroad—from Hakukoko, the present southern terminus of the northern division, to Koroton, which will then be the northern terminus of the southern division. On account of the extensive tunnel work and bridging to be done in this section, the two divisions will probably not be connected before the end of 1906. Eight tunnels, aggregating a length of $3\frac{1}{2}$ miles, and bridges over the Taian and Taiko rivers and

a branch of the latter, of 2,510 feet, 1,760 feet, and 200 feet in length, respectively, are to be constructed within the 9 miles. At present a double trainway line of 19½-inch gauge circuitously connects the two divisions of the railway, Chinese coolies furnishing the motive power.

When the two divisions are joined, the main line will extend from Kilung, in the north, through the western portion of the island, to Takow in the south, a distance of about 250 miles, and will afford transportation facilities between the principal ports and the developed sections of the island. The line is of 42-inch gauge, and is being permanently laid with 60-pound rails. The only unusual features about it are the numerous tunnels as it passes through the spurs of the mountains that approach the western coast in the districts of Byoritsu and Taichu and the number of large bridges at different places along the line. The western slopes of the mountain ranges which extend along the eastern coast of the island from north to south form watersheds. During the wet season, when the rainfall is extremely heavy, the streams leading from these mountains through the plains to the sea on the west often become swollen to enormous proportions, and adequate room for the passage of the water at such times has had to be provided. On account of the heavy rainfall, the road has been well graded up, and at places where it is within reach of the freshets along the smaller streams it is protected by stonework.

A branch extends from the main line at Taihoku to Tamsui, about 13 miles distant. It is probable that another branch about 40 miles in length will be constructed within a few years from either Dabyo or Kagi, in the district of Kagi, eastward, to the timber districts near Mount Arizan, where vast forests of hinoki (*Chamæcyparis obtusa*) are found. This timber is used extensively for building purposes, and when the forests of the island are made accessible the importation from Japan proper of hinoki lumber, which is now an item of some importance, will no doubt cease.

Small tramways, from 3½ to 15 miles in length, reach out into the more important of the productive districts along the line. Chinese coolies furnish the motive power on these tramways, and while they are miniature affairs, having a gauge of but 19½ inches and the beds of the cars being but 4 feet square, they generally meet the requirements, the chief of which seems to be cheapness of transportation.

The rolling stock of the railway, which is about equally divided between the two divisions—excepting locomotives, of which the northern division has 60 per cent—now consists of 30 locomotives (2 more are ordered from Japan), of which 23 are English, 4 American, 2 German, and 1 of Japanese manufacture; 406 freight cars of from 5 to 10 tons capacity, and 80 passenger coaches and mail cars, about equal numbers, being 25 feet and 38 feet long. A portion of this equipment was taken over from the old Chinese railway. It is fitted

throughout with the American type of automatic couplers. English wheels and axles are principally used.

The railway bureau has well-equipped repair shops at Taihoku, on the northern division, and shops suitable for making ordinary repairs at Takow, on the southern division. The Osaka Car Construction Company has branch shops at Taihoku, from which freight and passenger cars are now turned out.

During the Japanese fiscal year ended March 31, 1904, when 173.8 miles of line were under operation and the rolling stock consisted of 30 locomotives, 310 freights, and 75 passengers and mails, the gross earnings of the railways in the island amounted to \$481,165 gold, of which \$269,880 came from passengers carried, \$208,989 from freights hauled, and \$2,296 from other sources. The operating expenses amounted to \$406,641. The engine mileage amounted to 541,021 miles and the car mileage (passenger and freight, all trains being mixed) to 4,767,303 miles; 1,197,644 passengers were carried and 327,907 tons of freight hauled, about 90,000 of which consisted of railway materials and other Government supplies, for which no revenue was received.

As soon as a through service is established it is expected that the earnings will be much greater, for in addition to the traffic that will result from interchange of commodities between the north and the south, a portion of the rice, sugar, and other commodities of export produced in the south, and of the imports to be distributed in that part of the island, which now pass through the ports of Takow and Anping, will, no doubt, pass through the port of Kilung, as the harbors of Takow and Anping are so shallow and so ill protected from unfavorable weather as to render shipping at those ports very expensive, and during the portion of the year when storms prevail, subject to risk. The diversion of this traffic to Kilung will be more pronounced after the proposed improvements which are to be made in that harbor are completed, unless extensive improvements are also made in the harbor of Takow, which are not now contemplated.

The chief productions of the island that enter into the freight traffic of the railway are rice, coal, camphor, and tea, produced in the north; and rice, potatoes, and sugar, produced in the south.

The tariff of freight rates now in force varies from 5 to 8½ cents gold per ton per mile for broken lots, and from 2 to 5 cents for car-load lots. The tariff of passenger rates is fixed at 3 cents and 1½ cents per mile, respectively, for first and third classes, no second class being provided. First-class passengers are allowed 133 pounds of baggage and third class 45 pounds.

The construction of this railway was begun soon after the occupation of the island by the Japanese. The Chinese line then in operation between Kilung and Shinchiku was found so inadequate to the

requirements on account of its winding route, short curves, and heavy grades that the military department laid a new route and constructed a portion of the line between Kilung and Taihoku. In 1897 the railway passed to the control of the civil department, and in 1899 the Japanese Diet granted the sum of 28,800,000 yen (\$14,342,400) for the extension of the line to Takow. In the same year work was commenced on the southern division at that point.

The railway bureau is divided into five general departments, namely, the administrative, the roadway and engineering, the mechanical, the traffic, and the accounting and treasury, which also attends to the purchasing of supplies.

I inclose herewith a Japanese map of Formosa, showing the route of the railway, on which are given translations in red ink of the more important places.^a

FRED D. FISHER, *Consul*.

TAMSUI, FORMOSA, *January 10, 1905.*

HOW AMERICAN MANUFACTURERS OF MACHINERY CAN BUILD UP TRADE IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

Several months ago, in a report to the Department, I called attention to the fact that there is an almost unlimited field for the introduction of ice-making machinery in the cities of central and southern China. As a result I have received a number of inquiries from manufacturers in the United States, and several firms have sent me catalogues (in English), though none for distribution. Not a single firm, however, sent prices, and the manufacturers who seemed to be most interested in the matter specifically stated in a letter accompanying their catalogue that they were not then in a position to quote prices. It may be taken as a matter of course that nothing can be done toward the sale of such machinery in China without prices.

From a good many causes one is compelled to believe that the manufacturers of the United States do not appreciate the situation in China with respect to machinery and modern scientific appliances of all sorts. This matter of ice-making machinery is a case in point. The Chinese have nothing of the sort. Their science and their civilization have produced nothing like it. They are told that machines have been invented by which water can be frozen in midsummer in the hottest countries, and naturally they are interested. They appreciate what the comfort, convenience, health-giving power, not to say luxury, of such a device is, but its cost is altogether a matter of speculation.

^a Map on file in the Bureau of Statistics, Department of Commerce and Labor.

They have nothing with which to compare it. All they know about it they must take on faith and hearsay. It surely will be appreciated by American manufacturers in view of these facts that it is utterly foolish to approach shrewd business men like most Chinese investors with indefinite statements about what a machine will do, what it will cost, what its product will be, how much of a success it might be, and with theories that may or may not fit actual conditions in China. The average Chinese investor is just as anxious to know how and when he will get his money back with interest as the average American investor, and as a rule he wants just as many hard facts to induce him to invest. It follows that to establish an ice-making plant in China requires, first of all, definite information as to what a plant of the size and sort needed will cost. Indefinite assurances as to "about" what it will cost will not do.

The same observations might be made with equal pertinence as to gasoline engines, electrical plants, power outfits for motor boats, and all other modern machinery. I believe the better plan for American manufacturers to follow would be to make specific offers of complete plants at certain prices. For instance, an offer of an ice-making plant guaranteed to produce a certain number of tons of ice per day with a fixed expenditure of fuel, labor, and supplies, the plant complete and ready for setting up, for a certain amount of money, would draw more acceptances, I believe, than twice the amount of effort pushing the sale of the same plant with uncertain ultimate cost, even though the price in the latter case seemed lower. The uncertainties of extra charges and extra fixtures, of unknown drains and undefined troubles, hold back many schemes which really ought to succeed and which would succeed if they were properly encouraged. An advertised offer of power outfits for motor boats, including a certain motor, propeller, all shafting, connections, and everything complete, has far more attractiveness here, and perhaps elsewhere, than an offer of the motor alone, even at a seemingly lower rate. Of course there are objections to such a way of doing business, but when business is done by mail and at long distance in a country where the people have little or nothing by which they can judge of the merits of a proposition by comparison with things at home or in countries with which they are familiar, the advantages of the plan will, in my opinion, far outweigh the disadvantages.

In case of great concerns and plans for the construction of great institutions which will revolutionize life in this part of the world the matter is different. Special estimates must be had, and the Chinese appreciate this fact and will ask for them. But most of the business in this line for some time to come will probably be in the way of comparatively small plants or machines of the grades or standards readily constructed on short notice or kept in stock by American manufacturers.

Competition both from Europe and Japan in the sale of modern machinery of medium grades is likely to be very keen in China in the near future.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 21, 1905.*

FINANCIAL REFORM IN CHINA.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Sir Robert Hart, the director-general of the customs service of China, has submitted to the Chinese Government a new plan for reforming the revenues and improving its finances. By this plan the yearly receipts from customs and internal taxes will yield about 400,000,000 taels (\$284,000,000), whereas the present annual receipts are but 80,000,000 taels (\$56,800,000). He also proposes the following expenditures: For the army, \$35,500,000; navy, \$21,300,000; arsenals, \$7,100,000; administration of the civil service, \$113,600,000; schools, \$7,100,000; post and telegraph, \$4,260,000, and imperial court, \$7,100,000, leaving an annual sum of \$88,040,000 at the disposal of the Government.

The plan contemplates the creation of a powerful navy, which is to consist of 20 ironclad battle ships, 20 armored cruisers, and 120 torpedo boats, all of which are to be built within ten years; four arsenals, four schools for instructing army cadets, and three marine schools are to be established, and there is to be a thorough reform of the army, which is to consist of 200,000 men and 7,340 officers.

American manufacturers and contractors ought to give timely attention to this matter, so as to be in a position to supply at least some of the war ships, uniforms, and war materials, construction supplies, etc., which will be required when this great reform proposal is adopted.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 14, 1905.*

CANADIAN AND AMERICAN TRADE RELATIONS.

Under date of February 23, 1905, United States Consul H. S. Culver, of London, Ontario, transmits the following editorial from the Canadian Manufacturer of February 17:

One of the most remarkable features in the consideration of the question of closer trade relations between Canada and the United States is that Canadian politicians—some of them—vie with certain American politicians in raising every imaginable objection to defeat such an event. They advance the argument that closer trade relations

meaning greater freedom in buying and selling, implies some sort of a reciprocity treaty between the two countries to which Great Britain would have to give her assent, and which involves the tying up of the fiscal liberty of both countries for the term of years over which the treaty would extend. In their eyes a reciprocity treaty is the only known method by which any closer trade relations than now existing could possibly be brought about. That this is so is evidenced by the recent visits of Hon. George E. Foster and Hon. W. H. Montague to New England, where they addressed large and intelligent audiences on this subject. They both, in platitudinous language, while proclaiming the desire of the Canadian people to enjoy such closer relations, declared the impossibility of bringing it about save by a reciprocity treaty, which Canada at this time would not consider. And not in New England only, but in Canada also, in season and out of season, these politicians are proclaiming the same idea. That this idea is uppermost in their minds is shown by the constant denouncement of reciprocity, or of anything else that looks to the removal to greater or less extent of existing barriers. The fact is, these gentlemen do not seem able to entertain any idea of reciprocal trade relations apart from a reciprocity "treaty."

A reciprocity treaty is much talked of in the United States, the subject being uppermost in the minds of many who desire to be on more neighborly terms, commercially, than heretofore, and of course the talk is in favor of or against a "treaty" according to individual sentiment, but it occurs to but few that a treaty is not at all essential, and that if the United States desires the lowering of the barriers it does not require a treaty to effect it. The American people have a higher commercial appreciation of the value of the Canadian market, both for buying and selling, than ever before; and if there is any benefit in such transactions it should accrue equally to both sides. It is true that for years the United States has been commercially unfriendly to this country, but its business men, many of them, have come to see the error of their ways, and if they are willing and desirous to live up to the golden rule Canada would certainly stand in her own light were she to reject the friendly overtures.

We repeat, at this time Canada desires no reciprocity treaty with the United States. It is not desirable, but the fact that the aggregate trade between the two countries is so much larger than with Great Britain, that notwithstanding the tariff preference shown to the mother country, British manufacturers fail to supply Canadian wants to anything like the extent that American manufacturers do, the politicians must understand that the right hand of friendship that is now being extended to us should not be rejected.

The shortest, easiest, and most effective and satisfactory way for the United States to bring about more pleasant trade relations with Canada is to remove some of the barriers to such relations that itself has erected. If that is done the desired end is accomplished. There are many influential Americans who are striving in that direction, and they should not be discouraged. They do not propose another reciprocity treaty, nor are they asking that Canada should lower her tariff on American products. They are working for a reform in their own tariff, not ours. American obstructionists say that because Canada is such a large purchaser of American merchandise the situation is satisfactory to them, but they lose sight of the fact that although Canada is not inclined to increase her duties, she will probably adopt a system

of multiple tariffs—high duties to meet the high duties of the American tariff; moderate duties to apply to the products of countries whose tariffs are not unfavorable to us; preferential duties on British merchandise, and, if that system does not go far enough, an export duty on wheat, pulp wood, and other articles. This, of course, would savor of retaliation, which, undoubtedly, our American friends would not like to see established; neither would Canadians if it could be avoided.

LUMBER INDUSTRY OF CANADA.

(From United States Consul-General Foster, Ottawa, Ontario.)

The Canadian Lumberman, in its review of the lumber trade for the calendar year 1904, says that uncertainty characterized the industry in Canada during the year, owing to the commercial depression in Great Britain and also to the lessened demand for lumber in the United States, which resulted in large exports of lumber from certain Western States into Canada. It is said that the shipments of lumber from the State of Washington alone by the Canadian Pacific Railway were 1,962 carloads, against 632 carloads in 1903 and 823 carloads in 1902. Estimating 10,000 feet to the car, the Canadian Pacific Railway brought into Canada last year from Washington alone 19,626,000 feet of lumber.

The Canadian export trade in the year 1904 shows a considerable decline, the shipments from Montreal and other St. Lawrence ports being 142,000,000 feet less than in 1903. New Brunswick is responsible for a falling off of 30,000,000 feet and British Columbia for approximately 20,000,000 feet. The total value of the exports of lumber from the Dominion during the fiscal year 1904 is given by the department of trade and commerce as \$26,105,360, against \$28,918,522 in 1903.

Official figures show that the cut of lumber in the Ottawa district during the calendar year 1904 differed very little from that of 1903. Following are the figures for the past four years: In 1901, 611,000,000 feet; 1902, 608,000,000 feet; 1903, 562,000,000 feet; 1904, 565,800,000 feet. These figures represent the cuts of about twenty different concerns, the largest being mills at Hull, Quebec, with a cut of 115,000,000 feet.

While last year was considered unsatisfactory by the Ottawa lumbermen, the present year is thought to promise better conditions. The British market is said to have materially improved and the demand for lumber from American points is also much better, while the Canadian consumption bids fair in the future to reach unprecedented figures, as a result of the development of the country. The stock of standing lumber in the Ottawa district is reported to be less than it has been for years.

JOHN G. FOSTER, *Consul-General.*

OTTAWA, ONTARIO, *February 20, 1905.*

FOREIGN COMMERCE OF CANADA IN 1904.

(From United States Commercial Agent Shotts, Sault Ste. Marie, Ontario.)

The foreign trade of Canada during the year ended June 30, 1904, amounted to \$449,878,771—imports entered for consumption, \$251,464,332; total exports, \$198,414,439. Dutiable imports amounted to \$148,909,576 and duty-free imports to \$102,554,756. Of the dutiable goods \$77,543,780 worth (52 per cent) came from the United States and \$44,939,829 worth (30.1 per cent) from the United Kingdom, the remainder, \$26,425,976 worth (17.9 per cent), from all other countries. Of the duty-free goods the United States furnished \$73,282,735 worth (71.4 per cent), Great Britain \$16,837,745 worth (16.4 per cent), and all other countries \$12,434,276 worth (12.2 per cent).

The following table shows some of the principal imports from the United States and Great Britain under the preferential tariff:

Principal imports from the United States and Great Britain, year ended June 30, 1904.

Articles.	From the United States.	From Great Britain.
Iron and steel, and manufactures of.....	\$17,318,240	\$3,394,670
Brass and copper, and manufactures of.....	688,545	79,587
Hardware.....	3,242,415	583,181
Electrical machinery and appliances.....	2,517,506	61,773
Fuels (coal and its products).....	9,338,811	331,810
Agricultural implements.....	2,911,120	21,842
Vehicles.....	1,650,489	27,623
Paper, and manufactures of.....	1,903,522	455,315
Leather, and manufactures of.....	1,320,783	221,800
Metals, and manufactures of.....	893,597	151,675
Musical instruments.....	327,132	10,682

Exports from Canada to the several countries, year ended June 30, 1904.

Articles.	Exported to—			Total.
	United States.	Great Britain.	All others.	
Manufactures.....	\$7,416,498	\$6,231,094	\$6,216,467	\$19,864,049
Mine products.....	32,025,193	641,072	960,474	33,626,739
Fishery products.....	4,224,226	3,084,930	3,449,873	10,759,029
Forest products.....	15,009,838	14,962,927	3,119,157	33,091,922
Animals and their products.....	4,217,653	57,920,010	1,674,454	63,812,117
Agricultural products.....	3,863,021	27,266,656	6,009,198	37,138,875
Miscellaneous.....	100,456	14,203	7,049	121,708
Total.....	66,856,885	110,120,892	21,436,662	198,414,439

IMPORTS AND EXPORTS OF COAL.

The total imports of coal into the Dominion during the year was as follows: Bituminous, 4,661,941 tons, valued at \$9,652,331; anthracite, 2,275,018 tons, valued at \$11,461,223; coke, 221,050 tons, valued at \$765,123; total, 7,158,009 tons, valued at \$21,878,677, of which 2,261,607 tons of anthracite, 4,502,465 tons of bituminous, and 215,177 tons of coke were imported from the United States, and 13,411 tons of anthracite, 159,354 tons of bituminous coal, and 5,873

tons of coke from the United Kingdom. The exports of coal to the United States for the year were 1,382,693 tons, to Great Britain 14,120 tons, and to all other countries 249,692 tons, a total of 1,646,505 tons exported; the excess of imports was thus 5,511,504 tons.

The duty on bituminous lump and nut coal is 53 cents per short ton and 20 cents per ton on slack. There is no duty on anthracite coal or coke. The coal areas of Canada, so far as known, are located near the Atlantic coast and west of the Rocky Mountains, no coal being mined in the central portions of the Dominion. Owing to the great distance and cost of freight it is impractical to ship coal from the eastern mines farther west than Montreal, or from the western mines east to the central parts of Canada. This central district, which is the most densely populated and contains the largest number of manufactories, took practically all the coal that was imported, and therefore had to pay duties amounting to \$2,207,415. The Canadian Manufacturer and other papers and influential citizens have for some time been protesting against this duty. They claim that this part of the Dominion is being taxed heavily and manufacturers injured, and that the duties are no real benefit to the coal-producing areas.

GEO. W. SHOTTS, *Commercial Agent.*

SAULT STE. MARIE, ONTARIO, *February 6, 1905.*

Value of trade of the United States with the Dominion of Canada, 1873 to 1904.^a

Year ended June 30—	Imports from Canada.	Exports to Canada.		
		Domestic.	Foreign.	Total
	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>	<i>Dollars.</i>
1873.....	37,175,254	28,350,295	4,184,689	32,534,984
1874.....	34,173,886	37,249,196	4,578,708	41,827,904
1875.....	27,867,015	30,596,060	3,951,159	34,547,219
1876.....	28,805,964	29,945,801	3,429,918	33,375,719
1877.....	24,164,755	34,741,002	2,676,713	37,417,715
1878.....	25,044,811	33,802,468	3,344,214	37,146,682
1879.....	25,719,771	27,172,056	2,452,329	29,624,385
1880.....	32,988,564	26,757,478	2,702,779	29,460,257
1881.....	37,684,101	34,199,094	3,703,626	37,902,720
1882.....	50,775,681	33,234,785	3,255,668	36,500,453
1883.....	44,294,158	40,716,005	3,700,006	44,417,110
1884.....	38,399,835	40,423,820	3,882,376	44,306,196
1885.....	36,695,685	34,112,254	4,153,880	38,266,134
1886.....	37,304,036	30,644,285	2,818,515	33,462,800
1887.....	37,847,277	32,328,036	2,660,074	34,988,110
1888.....	42,924,554	33,073,566	2,808,517	35,882,083
1889.....	42,708,074	38,279,044	2,328,517	40,607,561
1890.....	39,042,777	37,327,563	2,354,145	39,681,718
1891.....	39,057,782	36,052,618	2,095,165	38,147,785
1892.....	34,954,003	41,006,120	2,283,667	43,289,787
1893.....	37,777,463	43,026,946	3,767,485	46,794,432
1894.....	30,790,016	50,040,870	3,623,224	53,664,094
1895.....	36,574,327	47,787,501	5,067,268	52,854,769
1896.....	40,887,565	53,063,247	6,634,074	59,681,921
1897.....	40,309,271	58,465,048	6,463,773	64,928,821
1898.....	31,870,486	77,450,465	6,263,021	83,714,066
1899.....	31,220,067	81,010,379	6,964,862	87,974,901
1900.....	39,369,074	88,030,386	7,289,034	95,319,970
1901.....	42,482,163	97,722,458	8,066,766	105,789,214
1902.....	48,076,124	101,696,372	7,946,021	109,642,993
1903.....	54,781,418	114,480,038	8,786,050	123,567,506
1904.....	51,552,791	122,234,089	9,000,946	131,234,965

^a From data of the Bureau of Statistics, Department of Commerce and Labor.

AREA SOWN IN WINTER WHEAT AND RYE IN FRANCE.

(From United States Consul Haynes, Rouen, France.)

The Journal Officiel, Paris, has recently published an estimate of the amount of wheat sown in the autumn now in the ground in France, based upon the January reports of the departmental professors of agriculture. The area sown in winter wheat is 15,668,354 acres, against 15,921,747 acres at the same date last year, a diminution of 253,393 acres. The total of spring and winter wheat sown in 1904 covered an area of 16,155,422 acres. The production of spring and winter wheat in 1904 was 296,610,384 bushels, and 364,324,754 bushels in 1903.

The area sown in winter wheat, as estimated at the present time for the ten principal regions of France, with the area sown in 1904, is as follows:

Area sown in winter wheat in the ten principal regions of France in 1904-5.

Region.	1904.	1905.	Region.	1904.	1905.
Northwest	1,734,890	1,707,031	Southwest	1,796,360	1,762,316
North	2,637,346	2,723,815	South	1,082,962	1,042,792
Northeast	1,299,710	1,284,298	Southeast	950,077	956,751
West	2,643,991	2,542,082	Corsica	32,124	32,025
Center	1,919,677	1,834,108			
East	1,823,546	1,785,725	Total	15,920,703	15,660,936

This decrease of 259,767 acres in the quantity of winter wheat sown is not confined to one or two special regions, but is general.

The report of the minister of agriculture gives the area of winter oats sown in 1905 at 1,943,081 acres, against 2,021,114 acres in 1904, being a decrease of 78,033 acres. These figures, however, do not have great significance, as considerably more spring than winter oats are sown, the whole amount, spring and winter, having been 9,475,278 acres last year. The average condition of winter oats is given as 68.8, against 72.9 in 1904 and 71.4 in 1903.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *February 20, 1905.*

CORELESS APPLE.

Under date of February 8, 1905, United States Consul Marshal Halstead, Birmingham, England, transmits the following article from the Westminster Gazette of February 6 on the coreless apple and its first appearance in England:

The arrival in England of the long-promised seedless apple has aroused extraordinary interest, and we have been literally inundated

with letters of inquiry concerning it from all parts of the United Kingdom. The tree produces no proper or petaled blossoms. One of the greatest botanical authorities in England, when asked for an explanation of this fact, admitted that he could not at present express an opinion upon the subject. Horticultural wiseacres of the old school shake their heads and say, "No blossoms, no fruits."

But the appearance in this country of the apple itself has effectually established its genuineness. In the near future seedless and coreless apples will be on sale in the fruit shops of every city in the United Kingdom. The tree produces a cluster of small green leaves like a disorganized bud. It is here that in due course the fruit forms. There being no petals or fragrance, the codlin moth, which has wrought great devastation in our orchards for years, passes it by, and thus few, if any, of the coreless apples are marred or injured by the grub of that pest. The trees are being propagated from buds, no seeds being available. The permanency of the seedlessness of the Spencer apple is beyond dispute. Over 2,500 trees are already in hand and the stock is being extended. Arrangements are in progress to insure ample supplies of these wonderful novelties in England, and their arrival will be duly announced in the advertising columns of the general press.

The Spencer seedless apple is not the first seedless apple which has been grown. Probably half a dozen trees have appeared at different places bearing apples without seeds, but those trees would not produce trees that bore seedless apples. Besides the apples which grew on the original trees had little juice and, being small, were of no commercial value. The originator of the Spencer seedless apple first succeeded in getting five trees which yielded fruits practically without seeds. From these five trees he budded and grafted to see if they would reproduce themselves. He has now in his orchard trees 4, 6, and 8 years old, all bearing seedless apples. Of course as these trees stand in close proximity to ordinary apple trees, a small percentage of the apples on the seedless trees have one and sometimes two or three seeds, but they are just as apt to appear in one part of the apple as another. For instance, he has found a seed within one-eighth of an inch of the outer peel of the apple, far removed from its core. It is impossible for the Spencer seedless apples to bear seeds of their own accord. The seed which is occasionally found is produced by the pollen from the common apple trees being carried to the seedless trees by bees or the wind. Wherever this pollen is deposited, conditions being favorable, the seed will be found. There is a small quantity of pollen, also a stamen, as in the ordinary apple tree, and probably not over one-twentieth the amount of pollen on the seedless buds that there is on the common tree blossoms.

COMMERCIAL VALUE.

The originator claims that his are the only seedless apple trees in existence which one can bud and graft from and obtain trees which will produce seedless apples; also, that there are no other seedless apples of any commercial value. These apples from the seedless trees grow as large as the ordinary winter apple and contain as much juice. They are red when fully matured and have large strawberry dots. The flesh is firm and they are excellent keepers. It has been proved that the farther we get away from the original five trees, the larger

and better is the fruit. The seedless trees are very prolific bearers. There is an absolute saving of about 25 per cent in the seedless apples on account of there being no waste, except the peeling. This fact can not be overestimated when it comes to evaporating and drying the fruit. Also for hotel and restaurant trade, as well as for family eating and cooking, the absence of seeds or seed pockets is a great convenience. In the green apples from the time they first appear until one-half or two-thirds grown traces of the seed pockets may occasionally be found, but by the time the apples reach full maturity, except in rare cases, this semblance of a seed pocket becomes absorbed in the solid meat of the apple. There being no seeds in the apple, there is no need for seed pockets, consequently nature eliminates them of her own accord.

Mr. Spencer has fifty bearing trees in his orchard at the present time, and the younger trees ($\frac{1}{4}$ years old) yield apples which have only a yellow fibrous substance of no toughness whatever representing the seed pockets. There is now only one variety of seedless apple, and as that is quite distinct from any other, it has been called the "Spencer seedless apple." Experiments are being tried on a dozen or fifteen of the best varieties of apples, and possibly in a few years' time the leading apples of commerce will be seedless.

The Spencer seedless apple tree may eventually revolutionize the apple industry of the world.

Marketed in large quantities in the opening months of the year, these apples, even when they are no longer novelties, will command 20s. (\$4.86) a bushel wholesale. At that price, if the trees are as prolific as they are stated to be, the apple should prove far more profitable to British growers than even the Ribstone pippin.

For some years the trees and also the fruits will be very expensive. Even if the sanguine expectations of their originator are realized, their introduction will not injuriously affect apple growing carried on by experienced cultivators, but it will happily drive from our markets those inferior and out-of-date sorts which are the chief cause of the periodic market gluts so ruinous to British fruit producers. For the commercial grower the new apple is admirably suitable.

AMERICAN AND INDIAN COTTON-BALING METHODS.

(From United States Consul-General Skinner, Marseille, France.)

My American correspondents point out that there are defects in the present method of baling American cotton, and that an impression prevails in certain quarters in the United States that the methods of baling employed in India are much superior to our own. In reply to a request for a report upon this subject, I have to say that my correspondents' impressions in respect to the superiority of the Indian bale are fully confirmed by the Marseille importers of cotton, who are familiar with every method of packing cotton known to commerce. While comparatively little cotton is received at this port there is probably no place in the world where a greater variety is handled. The

conviction is unanimous locally that the Indian bale is far better from all points of view than any other.

The typical Indian cotton bale is of the following dimensions: Length, 4.16 feet; height, 1.80 feet; width, 1.44 feet; weight, 396 pounds; tare, 6.60 pounds. This is the old Bombay bale. Within the last month another form of the same weight has been received, the measurement being as follows: Length, 3.08 feet; height, 2.42 feet; width, 1.27 feet. The cotton is covered with a light burlap and wrapped with twelve rounds of hooping. The hooping is in three pieces, each piece supplying three turns. The iron strap is not folded or riveted in any manner, the first round simply covering the first end, and the final end being slipped under the third turn. Pressure does the rest.

The Bombay bale is so convenient in size that one strong man can easily pick it up and stow it. One hundred Indian bales can be manipulated in as little time as 50 American bales, and with the same labor. The cotton is so compactly pressed that a sharp blow from a hammer will cause the iron hoop to burst asunder, whereas the American bale binder must be pried open with a special tool. The density of the bale minimizes the danger of fire. A foreman upon the docks, with whom I discussed this question, told me that a lighted match might be thrown upon an Indian bale without much fear that the bale itself would be damaged, and that the workingmen, who are in the habit of smoking a great deal, were under no special instructions as regards sparks and matches when handling Indian cotton. On the other hand, when American cotton arrived, the most careful precautions were necessary to prevent accidents. This same foreman told me that some time ago, in lightering certain Bombay bales, a considerable number of them fell overboard into the port and remained under water twenty-four hours. These bales were eventually recovered and placed in the sun, each side being exposed twenty-four hours. The absorption had been so trifling that the bales were completely dried in this time and shipped to manufacturers in the north with other cotton, and without any claim whatever for allowances.

The Bombay bale reaches the market in as good condition as when it left India. No cotton can be extracted without breaking the metal hoop, and there is no loss therefore from theft or otherwise. The American bale is so loose that when exposed to rain or dropped in the mud, as may frequently occur, the cotton suffers considerably. French manufacturers consider that every American bale contains 5 per cent of "crust," that is to say, damaged cotton, from the exposed sides of the bale, which has to be scoured and specially prepared.

The most striking advantage of the Indian bale is its economy in space. The representative of one of the leading navigation lines doing business with India writes to me as follows:

We bring large quantities of cotton from Bombay for Barcelona, via Marseille; very little cotton remains in this city. We carry it on the basis of 50 cubic feet per ton. Here is an example of how it weighs and measures, and this is taken as a fair average: Each bale of cotton weighs from 180 to 184 kilos (396 to 405 pounds); 50 bales weigh 20,400 pounds, equal to 9,240 kilos, and measure 13.6899 tons. This is for very hard hydraulic-pressed cotton. I should think it would be difficult to improve upon the pressing as now done in India.

I am unable to obtain in Marseille the measurement rate of American cotton, but it is reasonable to suppose that if our exporters would reduce the loose bulk now offered for export by 50 per cent they would be entitled to a very important reduction in present rates. The present American bale weighs 500 pounds, and the tare averages from 26 to 31 pounds.



FIG. 1.—The long and short standard Indian cotton bales.

The intense pressure to which Indian cotton is subjected does not appear to affect the quality of the fiber in any manner. The bale itself is so hard that it rings under a blow like a block of wood. My informants are so convinced of the immense superiority of the Indian bale as to believe that it would have been adopted long since in the United States if the American fiber could successfully withstand the same treatment. One importer seemed to think that the drier quality of the cotton received from India might warrant the high pressure applied, submitting the idea that the more humid American cotton would deteriorate unless lightly packed. It does not appear, however, that the difference in humidity is very great, as Bombay cotton under a 100° C. test shows from 6 to 7 per cent of humidity, American cotton $7\frac{1}{2}$ to 9 per cent, Chinese cotton 9 to 12 per cent. The more likely explana-

tion is this: Indian cotton is exported by a very few large firms located at Bombay and Kurrachee, who receive from the natives the freshly picked cotton, lightly packed in bags. They are in a position to concentrate the business, to erect expensive hydraulic presses, and to apply the most modern methods in their warehouses. American cotton, on the other hand, is grown throughout the South and packed in much smaller quantities by actual growers, who are naturally unable to afford a heavy investment in power presses, contenting themselves with simpler methods.



FIG. 2.—Typical Indian cotton bale.

The Shanghai cotton bale weighs from 250 to 260 kilos (550 to 572 pounds) and is as dense as the Indian bale. The Kurrachee bale weighs 200 to 220 kilos (440 to 484 pounds), but is otherwise like the Bombay bale.

My conclusion is that if there is no insuperable obstacle to the adoption of the Indian bale, it might be very profitably substituted for the present unwieldy American package. I have taken the precaution to obtain photographs, taken upon the Marseille docks, showing both the old and the new form of Bombay bale.

I am informed that the following British firms supply Indian exporters with presses which produce the typical Indian bale: John Shaw & Sons, Wellington street, Salford; Robert Middleton, Sheepscar Foundry, Leeds; Henry Berry & Co. (Limited), Leeds; Fielding & Platt (Limited), Gloucester, and Fawcett, Preston & Co., York street, Liverpool.

Since writing the foregoing I am in receipt of a letter from Messrs. Fawcett, Preston & Co., of Liverpool, as follows:

We have made many presses for India and China, which turn out 50 to 60 bales of cotton per hour of 500 pounds each, and measuring under 10 cubic feet. Such bales are noninflammable, and do not require "screwing" into the hold of the vessel, as is customary with the bales compressed in the cotton ports in the United States. No instance of a cotton fire on board ship or in warehouse has been known with these Indian-pressed bales; whereas fires are of constant occurrence with American bales, owing entirely to the difference of the systems used in preparing and pressing the bales, and in spite of the fact that the large compresses in the United States exert 50 per cent more pressure on each package than the Indian presses do.

In another part of this report 50 cubic feet is mentioned as the tonnage scale for Indian cotton. This should be qualified by the statement that the Bombay and Kurrachee cotton is figured at the rate of 40 cubic feet per ton, a notable economy in space.

ROBERT P. SKINNER, *Consul-General.*

MARSEILLE, FRANCE, *February 7, 1905.*

LOCAL TAXATION IN ENGLAND AND WALES.

(*From United States Consul Halstead, Birmingham, England.*)

The statistics of local taxation in Great Britain for 1902-3 have just been published. The London Daily Mail, in printing the following selections from the summary, explains that the delay in publication has been due to the difficulties of municipal auditing:

The interest of this summary lies in the light which it sheds upon the rapid growth of municipal extravagance. The outstanding local loans for England and Wales alone reached £370,000,000 (\$1,800,605,000) at the close of 1902-3, an advance of no less than £27,000,000 (\$131,395,500) on the previous year.

Of this debt £175,395,000 (\$853,558,767.5) has been incurred for nominally reproductive purposes, while nearly £200,000,000 (\$973,300,000) was not reproductive. But as expenditure on baths, markets, and cemeteries, which in many instances do not return any profit, is included among the reproductive items, the debt which is earning nothing is even larger than these figures would seem to show.

On the municipalist's theory the growth of the debt which has accompanied municipal trading on a colossal scale should have led to a decrease in the rates [taxes]. The figures of the blue book, however, prove that the rates [taxes] in England and Wales are steadily mount-

ing. In ten years they have increased 50 per cent, as the following table of rates and local expenditure in millions of pounds shows:

Rates and local expenditures in England and Wales in the fiscal years 1875, 1885, 1895, 1902, and 1903.

Fiscal year.	Rates.		Local expenditure.	
	Pounds.	Dollars.	Pounds.	Dollars.
1875	19,000,000	92,463,500	42,000,000	204,333,000
1885	25,000,000	121,662,500	55,000,000	267,675,500
1895	27,000,000	131,895,500	57,000,000	277,390,500
1902	46,000,000	223,359,000	121,000,000	588,846,500
1903	50,000,000	243,323,000	129,000,000	627,778,500

The burden upon industry which this expenditure imposes may be seen from the following table giving the amount of rates per pound:

Rates per pound (\$4.8665) in London and in England and Wales in the fiscal years 1875, 1885, 1895, 1902, and 1903.

Fiscal year.	London.		England and Wales.	
	s. d.	Dollars.	s. d.	Dollars.
1875	4 1	0.99	3 3	0.79
1885	4 6	1.09	3 6	.85
1895	5 5	1.32	4 2	1.00
1902	6 4	1.52	5 3	1.28
1903	6 9	1.64	5 7	1.35

Each inhabitant in London has now to pay in rates £3 (\$14.59), where in 1874 he paid only £1 4s. (\$5.83); each inhabitant of England and Wales has to pay £1 10s. (\$7.29), where a generation ago he only paid 16s. 2d. (\$3.93). The debt per head in London has risen from £6 (\$29.19) to £14 14s. (\$71.54), and in England from £3 18s. (\$18.97) to £11 4s. (\$54.50).

The highest rates were levied in West Ham at the rate of 9s. 8d. (\$2.35); the lowest in the borough of Oxford, where the rate was only 3s. 10d. (93 cents) per pound (\$4.8665).

By ratable value is meant the rent or income obtained from a piece of real estate, and by rates the amount of taxation assessed per pound of rent or income.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *February 13, 1905.*

GERMAN TRADE IN CENTRAL AND SOUTH AMERICA.

Under date of February 8, 1905, United States Consul-General Richard Guenther, Frankfort, Germany, transmits the following translation of an article printed in a leading German trade journal:

THE AMERICAN ADVANCE.

Now that Roosevelt has been reelected the fight for the conquest of the Central and South American markets will be continued with

redoubled energy by Americans. German interests are first of all injured thereby. Germany has every incentive to energetically defend her present position in the markets of Central and South America. What can we do to ward off the American attack?

Trade circles should send out able representatives for the purpose of studying the best opportunities for investing German capital in Central and South America. Cotton cultivation in those countries should be one of the means to keep up an exchange of products therewith. Through this means the exports to Europe may be increased, and the countries of the Old World need not suffer any more from excesses brought on by speculators in the United States nor depend upon the latter for a supply of cotton. That staple is already raised successfully in Brazil, and the soil and climate of Argentina and of Cuba are suitable for its cultivation.

NOTES.

Trade Openings in Foreign Countries.—Under date of January 4, 1905, United States Consul-General Guenther, Frankfort, Germany, transmits the following information from German sources:

Coal.—The "Kjobenhavns Belysningsvaesen," Copenhagen, Denmark, will receive proposals for the delivery of 150,000 tons of gas coal. The office of the directory is at Vester Boulevard 22, Copenhagen.

Tramway trailers.—The municipality of Liege, Belgium, will soon contract for the construction of six tramway trailers.

Railways.—A steam railroad line, 55 miles in length, is to be built between Shadera and Sangla, East Indies, to form a branch of the lines of the Northwestern Railway Company, whose offices are at Lahore, in the Punjab.

The ministry of public works at Buenos Aires has granted a concession for building a branch railway line from Clodomira to La Banda, Argentina.

Shipments of American Apples.—Under date of January 28, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, states that the total apple shipments from Atlantic ports for the week ended January 21, 1905, were 93,961 barrels, against shipments in the corresponding weeks, 1904 and 1903, of 77,069 and 44,478 barrels, respectively. The shipments from the various ports for the week ended January 21, 1905, and for the period since the 1904-5 season began compared with the corresponding period in 1903-4 were as follows:

Shipments of apples from Atlantic ports for the week ended January 21, 1905, and for the period since the 1904-5 season opened compared with the corresponding length of time in 1903-4.

Port.	Week ended January 21, 1905.	Season of 1903-4 to January 21, 1904.	Season of 1904-5 to January 21, 1905.
	<i>Barrels.</i>	<i>Barrels.</i>	<i>Barrels.</i>
Boston, Mass.....	34,519	529,510	533,019
New York, N. Y.....	19,853	902,696	472,506
Portland, Me.....	14,996	215,846	191,707
Halifax, Nova Scotia.....	23,568	352,673	234,256
St. John, New Brunswick.....	1,025	44,372	7,388
Montreal, Province of Quebec.....		728,132	367,681
Annapolis, Nova Scotia.....		44,058	24,106
Wolfville, Nova Scotia.....			88,500
Total.....	93,961	2,817,287	1,919,167

Markets for American Goods in Ireland.—From information I have received it would appear that a good market could be made in Belfast for the following goods of American manufacture: Coffin furniture, cabinet handles, spring balances, grocery scales, and all kinds of articles and implements in use in butcher and supply stores. There is little or no competition here for the supply of balances and scales, as one English firm has almost the monopoly of the market. I am told by those who handle such goods that if American manufactures of suitable quality and at reasonable prices were introduced they could command a ready and increasing sale.—*Edward Harvey, Vice and Deputy Consul, Belfast, Ireland, January 6, 1905.*

Meat from Argentina.—A Belgian meat company about to establish branch houses throughout the Kingdom of Belgium has imported from Buenos Aires, on the steamer *Ovingdean Grange*, a large cargo of meat, consisting of 270,000 kilograms (595,240 pounds) of beef and 30,000 kilograms (66,138 pounds) of mutton. The beef was shipped cut in two sides, while the mutton arrived whole. It is thought that this innovation will materially reduce the prevailing high prices, which is hinted at by the company. The quality of the meat after such a long trip is yet to be ascertained.—*James C. McNally, Consul, Liege, Belgium, January 13, 1905.*

Halibut Fishery of British Columbia.—Another company has entered the halibut fishery industry at Vancouver. It has not yet established a market in the east, and has therefore been obliged to sell a considerable portion of its catch either to the New England Fish Company for shipment fresh to Boston, or to other concerns for drying, salting, or smoking. The old company has suffered a very great loss through the wreck of one of its steamers, the *Columbia*. The vessel struck upon an uncharted rock in Millbank Sound and sunk in 150 fathoms. The crew (36 in number) were saved in their dories, but the entire equipment, aside from the dories, went down with the ship.—*L. Edwin Dudley, Consul, Vancouver, British Columbia (on leave at Ridgewood, N. J.), January 26, 1905.*

Canadian Railway Returns.—The railway department has completed the compilation of railway statistics up to June 30, 1904, at which time the mileage in Canada was 19,611, compared with 19,077 in 1903, an increase of over 500 miles. The paid-up capital, including Dominion, provincial, and municipal subsidies, was \$1,186,546,918, compared with \$1,146,550,769 in 1903, an increase of nearly \$40,000,000.

The gross earnings were \$100,219,436, an increase of \$4,154,909; working expenditure, \$74,563,162, an increase of \$7,081,683. The net earnings were \$25,656,274, a decrease of \$2,926,729 over 1903. There were 25,640,765 passengers carried, an increase of 1,492,023; freight, 48,097,519 tons, an increase of 724,102 tons. Twenty-five passengers were killed, as compared with 53 in 1903.—*John G. Foster, Consul-General, Ottawa, Ontario, January 26, 1905.*

Sanitary Precautions in the Danish West Indies.—Under date of January 12, 1905, the American minister at Copenhagen (Mr. Swenson) has reported to the Department that the order prohibiting the importation of wearing apparel and bed clothing not imported as personal baggage into the Danish West Indies has been revoked. Ships arriving thereat from the Barbados will, however, be subject to sanitary inspection until further notice.

Cotton Manufactures of Japan.—Under date of January 10, 1905. United States Consul-General Richard Guenther, of Frankfort, Germany, reports that the exports of cotton textiles from Japan in 1903 were valued at 8,270,000 yen (\$4,118,460), a fivefold increase since 1893. China, Korea, and Hongkong are the principal customers.

Canada Seeking Direct Trade with Cuba.—The administration committee of the Corn Exchange at Montreal held a meeting January 17, 1905, and considered the advisability of establishing a new and direct steamship line between Canada and the West Indies. Steps have already been taken for the establishment of a line between Mexico and Canada, and there is a difference of opinion as to whether the line to Mexico should not be so managed as to cause its steamships to stop at Habana or some other Cuban port, and thus save the necessity of two separate lines, there being already a steamship line from Halifax and St. Johns to the British West Indies. Under the auspices of the Tobacco Trade Journal, published at Toronto, a number of the leading Canadian importers of tobacco made an expedition recently to Cuba, visiting some of the most prominent Cuban planters, and it is expected that this visit relative to the imports of Cuban tobacco into Canada and the proposed steamship line will help to establish more intimate trade relations between Canada and Cuba.—*James H. Worman, Consul, Three Rivers, Quebec, January 18, 1905.*

Population of Geneva, Switzerland.—Under date of January 23, 1905, United States Consul Horace Lee Washington, Geneva, Switzerland, transmits the following: The bureau of statistics of the canton of Geneva has recently published the following statistics of the population of the city of Geneva, from which it will be seen that there is an increase of 4,343 in 1904 over the census in 1903:

Class.	1903.	1904.
Genevese citizens.....	35,607	36,952
Other Swiss.....	30,557	31,624
Foreigners.....	45,080	47,011
Total.....	111,244	115,587

Cattle Exported from Puerto Cabello, Venezuela.—The following figures, showing the exports of cattle from Puerto Cabello, were published recently in the "Boletín de Noticias" of this place: From January 1, 1898, to December 31, 1904, covering a period of seven years, there were exported 299,437 cattle, weighing 214,227,906 pounds, and valued at \$5,105,750. Included in this number were 15,605 cows. During the same period 483 horses and mares were exported. The exports in 1904 amounted to 91,887 cattle, weighing 61,418,899 pounds, and valued at \$1,112,165.97. This number included 8,091 cows.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, January 11, 1905.*

Shipments of Pig Iron from Middlesbrough, England.—In transmitting the following statistics covering the shipments of pig iron from Middlesbrough, including Skinningrove, United States Consul-General H. Clay Evans, London, January 10, 1905, reports that 3,150 tons of pig iron were shipped to the United States during the month of December, 1904, the first shipments to the United States during the year:

Shipments of pig iron from Middlesbrough, England, 1894 to 1904.

Year.	Coastwise.					To foreign countries.	Total shipments.
	Scotland.	Wales.	Newcastle.	Other English ports.	Total coastwise.		
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
1894.....	412,865	28,250	24,720	43,041	508,816	487,872	996,688
1895.....	410,191	28,751	28,550	50,740	518,232	529,168	1,047,400
1896.....	427,610	21,147	41,487	63,720	558,964	684,968	1,238,932
1897.....	422,272	30,501	48,061	54,581	555,415	694,161	1,249,776
1898.....	415,268	32,538	47,231	43,238	538,275	575,037	1,113,312
1899.....	396,275	16,703	43,914	41,927	498,819	847,246	1,346,065
1900.....	298,893	8,776	39,568	23,952	311,189	801,908	1,113,097
1901.....	433,062	16,630	53,610	56,979	560,271	501,599	1,061,870
1902.....	461,563	16,645	54,600	77,035	609,843	532,943	1,142,786
1903.....	524,748	15,530	69,830	96,681	706,789	509,668	1,216,457
1904.....	421,488	27,769	25,185	59,646	534,087	474,219	1,008,306

Matches in Venezuela.—By order of the provisional president of Venezuela, issued at Caracas December 19, 1904, every box of matches in the Republic must be stamped, as required by the contract entered into with the Fábrica Nacional de Fósforos Company, within three months from the date on which the decree was issued. Failure to comply with this decree will entail the confiscation of the matches and the punishment of the persons having them for sale or carrying them for their own use.—*E. H. Plumacher, Consul, Maracaibo, Venezuela, January 13, 1905.*

Artificial Silk.—A large factory for making "artificial silk" is to be established at Florence, Italy.

A German manufacturer, Rudolf Linkmeyer, in Herford, has sold the right of using his process for making "artificial silk" in France and Belgium to a Brussels syndicate for 600,000 francs (\$115,800).—*Richard Guenther, Consul-General, Frankfort, Germany, January 9, 1905.*

Duty-Free Goods Entering the Netherlands.—Under date of February 3, 1905, the American minister at The Hague (Mr. Newell) reports that, by recent decrees, glacial acids and anhydrides of vinegar, required for the preparation of chemical products, are admitted into the Netherlands free of duty.

Accelerating the Speed of Ships.—A current newspaper paragraph tells of an invention "upon which great hopes are based for accelerating the speed of ships." Prof. Carlo del Lungo, demonstrator in physics at the Royal Lycee of Spezzia, has invented and patented, both in Italy and in England, a device for pneumatically lubricating the hulls of ships. Professor Lungo, it is stated, pumps air into the water surrounding ships, thereby diminishing the density of the water, and it is held that the effect of pumped air is analogous to the lubrication of machinery by oil. Satisfactory tests have been made with ships at Leghorn. Other experiments on a more extensive scale are to take place in England during the present month. While the invention can be applied to all ships, it can be carried to a still higher degree of efficiency by modifications in the form of the vessel.—*Marshal Halstead, Consul, Birmingham, England, January 20, 1905.*

Para Rubber Seed.—Under date of December 23, 1904, United States Consul-General O. F. Williams, Singapore, Straits Settlements, transmits the following: Since coming to Singapore I have written many

times relative to Para rubber cultivation and given opinions and comments of the growers here. I now quote a communication dated December 19, 1904, from Mr. W. Dunman, an experienced planter at Singapore, and an accepted authority here on rubber culture, in which he states—

I have made arrangements with some of the leading planters for the supply of Para rubber seed, and am in a position to supply selected seed from trees 5 years old and over at \$5 (silver) per 1,000, packed in boxes of 50,000, in dry, pounded charcoal, delivered in Singapore. The season is between August and November. As there is considerable demand it would be as well to book orders as soon as possible, and I am prepared to do this for the next five years.

Reduction of Loading and Unloading Charges in Callao.—I inclose two copies, in Spanish, of the approval of a new contract signed December 31, 1904, in Lima, between the minister of hacienda of Peru and the representatives of the "Société Générale" of Paris, relative to the "muelle y dársena," in Callao, canceling the contract of May 5, 1887, and reducing the privileges conceded to this French company in the loading and discharging of merchandise in the port of Callao, which had proved detrimental to foreign commerce. The dock was commenced in 1870 in the administration of President Balta, and incloses a space of 52 acres, with berthing accommodation for 30 large vessels.—*Richard R. Neill, Secretary of Legation, Lima, Peru, January 2, 1905.*

Wireless Telegraphy in England.—By an arrangement between the British post-office department and the Marconi Company every telegraph office in the United Kingdom now receives messages for transmission by the Marconi wireless system from the Marconi coast stations to ships at sea fitted with the Marconi apparatus. Under the wireless telegraphy act no one can use a wireless telegraph system in Great Britain without authority from the postmaster-general. The postmasters at various offices are kept informed of the movements of ships carrying the wireless apparatus and the locality of the shore station through which messages may be sent, and anyone desiring to send a message to a ship at sea by wireless telegraphy may do so by handing the message into a telegraph office and paying 6½d. (13 cents) per word. There must be paid, however, a minimum of 6s. 6d. (\$1.57) for each telegram.—*Marshal Halstead, Consul, Birmingham, England, January 12, 1905.*

American and Canadian Leather in England.—The Dominion commercial agent at Bristol, England, writes to the department of trade and commerce, calling the attention of the trade to the large

demand in England for leather which might be supplied from Canada. Large importers secure the bulk of their supplies from the United States via Boston and Liverpool, owing, the importers say, to no inferiority of the Canadian article, but to the more moderate prices asked by American exporters. "The market is here," adds the agent, "and is worth fighting for."—*James H. Worman, Consul, Three Rivers, Quebec, January 31, 1905.*

Dynamite in Formosa.—I desire to call the attention of American manufacturers of dynamite to the fact that a large quantity of that article is being used in the mines in this island. If they desire to compete for this trade and will send trade-marks, prices, etc., of their products to this consulate, I will endeavor to see that the same receive due consideration from the consumers here. The dynamite now used is of German manufacture.—*Fred D. Fisher, Consul, Tamsui, Formosa, December 22, 1904.*

American Apples in Canada.—A local paper of Halifax, January 24, 1905, says: Inquiring at Covent Garden Press Association it was learned that American apples are in greater demand than the Canadian product. This is owing to their superior general quality. American prices ruled higher, but this is partly due to the fact that American barrels contain 28 pounds more than Canadian barrels.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, January 24, 1905.*

Development of the Magellan District, Chile.—The German commercial expert attached to the German consulate-general at Valparaiso reports that the development of the Magellan district has stimulated business in Chile to a remarkable degree. He estimates the capital invested in new enterprises, mostly mining companies and cattle ranches, during 1904, at 65,000,000 pesos (\$23,725,000).—*Richard Guenther, Consul-General, Frankfort, Germany, January 10, 1905.*

Paper-Rolling Machines for Hungary.—My report on the opening for paper-rolling machines was reprinted from Daily Consular Reports, No. 2134, in Berlin by the Nachrichten für Handel und Industrie. A German firm in Hamburg now writes me that it is already making offers to Utassy & Fekete, of this city, and sends me the descriptions of the machine, without stating whether it is of American or German manufacture. American machine houses should look into this matter without further delay.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, January 21, 1905.*

The following is the report referred to by Consul-General Chester, reprinted from Daily Consular Reports for December 16, 1904 (No. 2134):

PRINTING MACHINERY WANTED.—I beg to inform the Department that the firm of Utassy & Fekete (address: V, Szechenyi utca, 12, Budapest) is desirous of purchasing a machine that will print packing paper and at the same time roll it up into rolls ready for sale to retailers for immediate use. Such a machine is at present in use by Gat & Neumayer, of this city, who refuse to divulge the name of the makers to their rivals. Offers should also be made to printing firms in all the larger cities of Hungary.—*Frank Dyer Chester, Consul, Budapest, Hungary, November 11, 1904.*

Value of Free Ports.—Mr. Llewlyn Smith has written an introduction to a House of Commons paper relating to Continental free ports, which I find quoted in the Birmingham Chamber of Commerce Journal. Having explained that free ports are districts where goods may be imported and exported without being subject to ordinary tariff duties, though sometimes subject to a nominal tax largely for statistical purposes, and that in some instances goods may even be improved by manufacturing within the area of the free port and without the payment of duty, Mr. Smith records the fact that the German Empire has nine duty-free areas, Austria-Hungary two, and Denmark and Roumania one each. The German free ports vary in size from 25,000 acres at Hamburg to the 1 acre at Danzig. Such areas are used for transit trading, goods being received from and shipped to foreign countries without paying duty, export business being thus facilitated by the saving of time and labor. They are also used for the importation of goods destined to pass from the duty-free area into territories subject to the customs jurisdiction of the country in which the free port is situated.—*Marshal Halstead, Consul, Birmingham, England, January 13, 1905.*

Canned Goods in the Transvaal.—The Belgian consul-general at Johannesburg, Transvaal, reports that the imports of canned fruits, vegetables, preserves, sauces, etc., into that colony in 1903 amounted to \$789,000 in value and to 6,106,839 pounds in weight, of which latter 689,558 pounds represent imports from the United States. The great bulk of the supplies came from Great Britain. France comes next to England in supplying canned vegetables, and the United States, with its great canning industries, has but a small share in the trade. The following firms are the principal dealers in this line of goods—In Johannesburg: Atkins & Co., J. W. Becket & Co., Cohen & Sons, A. George & Co., Harmens Brothers, Harwin & Paterson, E. Nettmann & Co., Patton Brack, Raphaely, Leo & Ducles, and Sklom &

Gimsberg; in Pretoria: Lilienfield & Co., A. Johnston & Co., Jack John (Limited), and B. Gundelfinger & Co.—*Richard Guenther, Consul-General, Frankfort, Germany, January 16, 1905.*

Cider in England.—Under date of January 31, 1905, United States Consul James H. Worman, of Three Rivers, Quebec, transmits the following extract from a report to the Dominion government by its commercial agent (W. A. McKinnon) for Bristol, England:

The demand varies with the price, but at 4 cents a pint, retail, it is practically unlimited. American cider can be imported to be sold, presumably pure, at this price, a local firm having landed 240,000 gallons of the properly fermented article (as distinguished from sterilized apple juice) between January and the end of April last. Of Canadian-made cider comparatively little is imported, though no fault is found with its quality, and some place it ahead of the American article. Here it is again a question of price, Canadian cider being too dear at ship's side, partly owing to the inland price being high and partly owing to transportation charges. I understand that the railways have been studying the situation with a view, no doubt, of doing what they can to assist in establishing such an important industry. The interests of apple growers are also involved, since anything which will provide an outlet for the lower grades of apples, relieving home and foreign markets of all but thoroughly sound stock, will greatly enhance the price and reputation of Canadian fruit. It is to be hoped the fruit-growers' associations will cooperate actively with the cider exporters and the railways to capture this important trade.

British Shipbuilding and Shipping.—Lloyd's Register of British and Foreign Shipping, just issued, states that during 1904, exclusive of war ships, 712 vessels of 1,205,162 tons gross (613 steamers of 1,171,375 tons, and 99 sailing vessels of 33,787 tons) were launched in the United Kingdom. This output of mercantile tonnage shows the slight increase of about 15,000 tons over that of 1903, and, with the exception of the latter year, is the lowest since 1897. The sailing tonnage of the United Kingdom has decreased about 76,000 tons during the year, while the steam tonnage has increased about 505,000 tons. The net increase of British tonnage during 1904 is therefore about 429,000 tons. For the last five years the estimated yearly net increases were as follows: 1899, 313,000 tons; 1900, 220,000 tons; 1901, 543,000 tons; 1902, 643,000 tons; 1903, 405,000 tons.—*Jos. G. Stephens, Consul, Plymouth, England, January 19, 1905.*

Turkish Statistics on the American System.—The *Levant Herald* of this city states in its issue of January 18, 1905, that the Turkish Government has given orders throughout the Empire for the collection and arrangement of its general statistics according to the American

system. This is a high tribute to American methods. I understand that the Turkish Government has been for some time impressed with the exactness with which the American consulates in the Empire prepare information in regard to shipments of foreign products to the United States.—*Charles M. Dickinson, Consul-General, Constantinople, Turkey, January 19, 1905.*

A New Mineral.—The Vienna Workingman's Journal reports that at the general meeting of the Mineralogical Society of Vienna, January 9, 1905, Doctor Morosiewicz, professor of mineralogy at the University of Krakau, announced that he had discovered a new mineral, to which he had given the name bekolith, in honor of the Vienna mineralogist, Prof. Friedrich Beck. He asserted that it does not correspond to any of the mineral combinations so far known, but resembles mostly combinations of garnet, having similar regular crystals, and contains many rare earths, which form 75 per cent of its volume. The chief components are cerium, lanthanum, and didymium oxides, and it may be of use for the manufacture of chemical products, especially for the light industry. The discovery was made during a scientific exploration which Professor Morosiewicz made in southern Russia, and the government district of Ekaterinoslaf is probably the chief locality where the mineral may be found. The rock in which it was discovered is called marinpolith.—*Richard Guenther, Consul-General, Frankfort, Germany, January 13, 1905.*

Changes in Canadian Import Duties.—United States Consul-General John G. Foster, Ottawa, Canada, under date of January 27, 1905, reports the following changes in Canadian duties:

Transferred from dutiable to free list.—Carbons over 6 inches in circumference when for use in Canadian manufactures, formerly dutiable at 15 per cent ad valorem.

Duties reduced.—When the articles named are imported by manufacturers of burial caskets or burial robes for use in such manufacture:

Casket gimps and fringes, and embroidered chiffon, from 35 per cent to 10 per cent ad valorem.

Silk cloth, including satin, from 30 per cent to 10 per cent ad valorem.

Exports from Bradford to the United States.—The exports declared at Bradford, England, for the United States during the year ended December 31, 1904, amounted to \$12,226,976, as against \$10,193,887 in 1903, an increase of \$2,033,089, equivalent to 20 per cent. The principal articles showing increases were: Wool, \$2,404,567;

stuff dress goods, \$171,598; cotton cloths, \$167,604; sheep skins, \$137,995; silk waste, \$82,581; and mohair and goats' hair, \$80,975. Exports showing decreases were: Stuff linings, \$320,531; silk piece goods, \$170,944; cotton yarns, \$140,955; machinery, \$122,931; silk yarns, \$82,913, and worsted coatings, \$52,600.—*Erastus S. Day, Consul, Bradford, England, January 18, 1905.*

Apples in Norway.—The commercial agent of the Dominion of Canada at Christiania, Norway, C. E. Sontum, reports as follows to his government:

During the past month I have had the pleasure of placing with a Hamilton (Ontario) firm orders for two carloads of XXX Red Baldwin apples, also for a sample shipment of such apples packed in boxes, and of choice evaporated apples. I sold a carload for this same firm last year, which gave entire satisfaction, and as the importers have thus got confidence in the goods, I hope to establish a regular demand for Canadian XXX Baldwins and choice evaporated apples, if the Canadian exporters continue to send strictly first-class goods. On account of the high duty only the better class can afford to buy imported apples, and at the high prices which they then have to pay, they demand selected fruit. There are plenty of common quality apples grown right here, and as there is this year an abundance of them, the price is very low. Nevertheless, I obtained the same price for the Canadian apples this year as last.—*James H. Worman, Consul, Three Rivers, Quebec, January 31, 1905.*

Port of Hamburg.—Hamburg stands third among the world's shipping ports, being outranked only by London and New York. During 1904 the arrivals and departures of vessels at the port of Hamburg aggregated 19,225,000 register tons, a gain of 875,000 tons over the preceding year. Within the last twenty-five years Hamburg's shipping trade has increased threefold. In the same period the great shipping line, the Hamburg-American Steamship Company, increased its fleet from 20 to 142 seagoing steamships, which annually visit more than 300 ports all over the globe.—*Richard Guenther, Consul-General, Frankfort, Germany, January 9, 1905.*

Proposed Duty on American Lumber in Canada.—A deputation representing the lumber interests of the entire Dominion of Canada has appeared before the Parliament at Ottawa to petition for an import duty on American wood. Mr. George McCormick, ex-member of Parliament from Muskoka and Parry Sound, in an interview with a newspaper representative from Toronto, stated that the wood coming from the States of Washington, Oregon, and Montana seriously affects the Canadian market.—*James H. Worman, Consul, Three Rivers, Quebec, January 16, 1905.*

Guatemala Northern Railroad.—Work is progressing on the Guatemala Northern Railroad, and it is the intention to have regular trains running from Puerto Barrios to within 50 miles of this city by April 1, 1905. Of these 50 miles, about one-half the distance is covered by a good wagon road. It is expected the railroad will be completed to this city by April, 1906. When this road is ready for business, the United States should have the bulk of the trade with this Republic. Guatemala City will then be within six days of Chicago and seven days of New York, and the freight rates should be about one-half what they are now. The manufacturers and exporters of the United States should acquaint themselves with the needs of this market, so as to thoroughly cover it when the opening comes. The imports for 1903, which were very light owing to hard times, were \$2,971,638 United States gold, and during prosperous times should reach \$5,000,000. At present the United States is getting only about 45 per cent of the import trade and ought to double the amount.—*Alfred A. Winslow, Consul-General, Guatemala City, Guatemala, January 18, 1905.*

Vintage of the Rheingau in 1904.—Under date of January 18, 1905, United States Consul Walter Schumann, of Mainz, Germany, transmits the following statistics showing the wine production of the several districts of the Rheingau in 1904. The figures represent gallons: Assmannshausen, 45,733; Aulhausen, 6,613; Eibingen, 59,813; Eltville, 74,853; Erbach, 81,920; Geisenheim, 140,960; Hallgarten, 139,200; Hattenheim, 112,000; Johannisberg, 54,266; Kiedrich, 58,400; Lorch, 176,000; Lorchhausen, 52,000; Mittelheim, 70,826; Neudorf, 51,200; Niederwelluf, 21,306; Oberwalluf, 4,480; Oestrich, 139,360; Rauenthal, 53,280; Rudesheim, 98,320; Winkel, 130,880; total output of the Rheingau, 1,571,410 gallons. The wine declared for export to the United States from the Mainz consular district for the calendar year 1904 was as follows: Still wines, \$798,109; sparkling wines, \$37,851; total, \$835,960. During the calendar year 1903 the exports declared amounted to \$868,820, in about the same proportions of still and sparkling wines as in 1904, showing a decrease amounting to \$32,860 in the year just passed.

Proposed Revision of the Australian Tariff.—The Government of Australia has appointed a commission to inquire into the operation of the customs tariff of the Commonwealth. It is anticipated that it will recommend that the present duty on many articles be raised to provide more adequate protection to Australian manufactures. The recommendations must be discussed and passed by Parliament before becoming operative.—*John P. Bray, Consul-General, Melbourne, Australia, December 13, 1904.*

Reorganization of Canadian Pulp Mills.—American capitalists have recently bought pulp mills in Canada that have been inactive. One of these new concerns which has recently been organized is the Miramichi Pulp and Paper Company, with a capital of \$300,000. The incorporators are George T. Keys, of Pepperill, Mass., and his two brothers; Charles A. Haight, a Boston capitalist, and James Beveridge, late manager of the pulp mill at St. John, New Brunswick. They have bought the Chatham pulp mill, which has been closed for some years, and will commence active operations at once.—*James H. Worman, Consul, Three Rivers, Quebec, January 31, 1905.*

Roumanian Petroleum.—Roumania's production of petroleum is increasing year by year. In 1903 it amounted to 384,303 metric tons (metric ton=2,204 pounds), of which 96,540 tons were exported, most of which went to England, Austria-Hungary, Germany, France, the Netherlands, and Italy.—*Richard Guenther, Consul-General, Frankfurt, Germany, January 9, 1905.*

Canadian Tariff on American Sample Shoes.—A deputation from the Canadian Shoe Travelers' Association waited on the minister of customs at Ottawa last week and asked for the enforcement of the tariff on sample shoes brought into Canada by United States travelers, claiming that under the present regulations unmated samples were carried in at different ports and mated afterwards. Owing to the samples being all rights or lefts, they were entered for duty at a low value, and thus Canadians suffer from underselling. The minister of customs told the deputation that hereafter duty would be collected on the full valuation of American shoe samples and that proper invoices would be required for entry.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 1, 1905.*

Proper Clothing for School Boys.—A head master of one of the oldest schools in Surrey, the Kingston Grammar School, upon assuming charge recently, addressed a letter to the parents of his pupils urging the adoption of a more rational dress for boys, and the letter has been given to the press. This schoolmaster asserts that the vest, or waistcoat, is no protection to the most vulnerable part of the body, the back, because the hinder part of the waistcoat is not of wool or a heavy material, while the tightly buttoned vest prevents the fullest increase of chest growth. He advises the parents to dispense with the waistcoat and to clothe their boys in sweaters and flannels; in his opinion a blue flannel shirt and flannel collar with a red tie would be

smart and pleasing. While acting as master at Lorretto school, at which the boys dressed as suggested and were enabled to take active exercise at any time without running the risk of taking a chill, he observed that the average boy became "larger limbed, broader chested, and on the whole more physically fit than the average boy at any other public school." Bicycle rides to school and the various physical exercises and outdoor sports result in much perspiration, and if a linen or cotton shirt is worn there is constant liability to colds.—*Marshal Halstead, Consul, Birmingham, England, January 26, 1905.*

Peru-Brazil Boundary Treaty.—Regarding the treaty as to disputed territory about the headwaters of the Amazon River, which provided a *modus vivendi* to last until the end of 1904, Doctor Seoane, Peruvian minister to Brazil, has arrived at an agreement whereby the treaty in question is prorogued for five months longer, that is, until the end of May, 1905. It is of particular importance to a certain class of American importers and exporters to note carefully that by the terms of the protocol the Brazilian customs tariff is substituted for the Peruvian at the custom-house at Iquitos, as well as at the two temporary frontier customs posts of Catay and Breu Junction.—*A. L. M. Gottschalk, Consul, Callao, Peru, January 4, 1905.*

Milk Powder in Canada.—A process has recently been patented in Canada for the manufacture of milk powder, which consists of mixing with milk a sufficient quantity of milk salts to render the albumen soluble, such as 1 per cent of nitrate of calcium and phosphate of potassium. The milk is then evaporated and noncrystalline sugar is added in a proportion of about 1 to 2 per cent of the weight of the milk in order to prevent decomposition.—*James H. Worman, Consul, Three Rivers, Quebec, January 31, 1905.*

Immigration into Canada.—The Dominion board of immigration estimates that 140,000 immigrants will come to Canada from Great Britain, the Continent, and the United States during 1905 with a view to locating in the west. The advance guard, a party of about 80, went west last week. Although the steamship companies have raised the rates for trans-Atlantic traffic, passengers booking are as numerous as in 1904. Last year the predominating elements of immigration were English-speaking people from England, Ireland, and Scotland. In addition to more of this class, many Galicians, whose predecessors have shown them to be desirable settlers, and a goodly number from France and Germany are coming in 1905. In 1904 some

40,000 people came into Canada from the United States, and this year as many more are expected. The immigrants from the United States came from Minnesota, the Dakotas, Washington, Illinois, and other States, their greatest attraction being the western wheat fields. The heavy movement will be in full blast in the course of a few weeks, and the officials of the immigration department are now making very active preparations to meet it.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 1, 1905.*

Chinese Laborers in South Africa.—According to a statement just issued by the Chamber of Mines' Importation Agency (Limited), the number of Chinese laborers in South Africa on November 30, 1904, was 19,316; arrivals during December, 1904, 3,981; in transit on December 31, 4,245; deaths, 53; repatriated, 192; total in South Africa and in transit on December 31, 1904, 27,297.—*Joseph E. Proffitt, Consul, Pretoria, Transvaal, January 19, 1905.*

New York and Ottawa Railroad.—Since the purchase of the New York and Ottawa Railroad by the New York Central Railroad Company the latter has determined to rebuild the road between Cornwall and Tupper Lake, which will be operated under the Vanderbilt system. The change is necessary to make the New York and Ottawa tracks suitable to the heavy rolling stock of the New York Central. The roadbed of the New York and Ottawa is in good condition for the small engines in use, but the change contemplated will make the bed suitable for the largest class of engines. This road and the Rutland will insure to the Central an immense trade from Ontario Province. It will also place Cornwall in advance as an export town.—*John E. Hamilton, Commercial Agent, Cornwall, Ontario, February 9, 1905.*

American and Russian Petroleum in Greece.—The Greek Government has again ordered a considerable quantity of American petroleum. From time to time there have been complaints in regard to the Russian petroleum furnished of late by the monopoly, and it can not be denied that the American article is of a better quality. Russian refined oil is improving, however, and it is offered on better terms. The new American order is more likely to have been given as a result of complications arising from the strikes in Russia than because of any change of intention on the part of the Greek Government. I have heard that an English company has begun boring for oil in Zante, and that it is satisfied with the prospects, although nothing has been put on the market as yet.—*John B. Jackson, Minister, Athens, Greece, February 2, 1905.*

Wages in Germany.—From statistics printed in the Advertiser, Giessen, Germany, the following statement shows the average daily wage of an adult laborer permanently employed, winter and summer, at that place at specified periods during the last seventy-five years: 1830, 13.5 cents; 1840, 16.8 cents; 1850, 20.4 cents; 1860, 26.4 cents; 1870, 33.6 cents; 1880, 48 cents; 1890, 54 cents; 1900, 60 cents; 1905, 64.8 cents. It thus appears that the laborer's wage has increased five-fold since 1830. It should be borne in mind that the necessities of life, house rent, etc., have also greatly increased during the seventy-five years under consideration, although not to the same degree as the wages.—*Richard Guenther, Consul-General, Frankfort, Germany, January 13, 1905.*

German Railroad Statistics.—Under date of January 19, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, transmits the following statistics of the German standard gauge railroads in 1893 and 1903, abstracted from the returns of the German Federal railroad office, recently published:

Statistics of German railroads in 1893 and in 1903.

Description.	1893.	1903.	Increase.
Mileage of standard gauge roads miles..	27,223	33,160	5,937
Rolling stock: ^a			
Locomotives number.....		20,845	
Motor cars do.....		49	
Passenger coaches do.....		42,096	
Baggage and freight cars do.....		427,788	
Receipts and expenses:			
Receipts—			
From passenger traffic dollars..	91,600,000	146,000,000	54,400,000
From freight traffic do.....	227,160,000	333,350,000	106,190,000
All other receipts (rents not included). do.....	15,740,000	34,521,000	18,781,000
Total receipts do.....	334,500,000	513,871,000	179,371,000
Operating expenses do.....	200,300,000	316,230,000	115,930,000
Officials and employees number.....	417,188	559,451	142,263
Salaries and wages paid officials and employees... dollars..	122,040,000	188,630,000	66,490,000
Capital invested yielded per cent..	5.12	6.08	0.88

^a Statistics showing the number of locomotives and cars for 1893 are not given, but the increases in 1903 over 1902 are designated in percentages as follows: Locomotives, 32.64; passenger coaches, 41.86; baggage and freight cars, 36.

Increased Canadian Duty on Automobiles.—Under date of February 1, 1905, United States Consul-General Holloway, of Halifax, Nova Scotia, reports that by a ruling of the Dominion board of customs the duty on automobiles and rubber tires therefor has been increased to 35 per cent. It was formerly 25 per cent.

Effect of the German Coal Strike.—Reliable statistics show that the average dividends paid by the German coal mining joint-stock companies for 1904 were about 10½ per cent on the nominal capital.

As a matter of course, the market value of the shares stands much above par, owing to the large dividends. The present strike will, if it continues much longer, cause great detriment to the manufacturing interests, distress among the working classes, serious losses to business people, and may possibly lead to disturbances of the peace, riots, and destruction of property. The Government is doing all in its power to reconcile differences, and it is to be hoped that they will soon be arbitrated. So far the strike has benefited the coal interests of Belgium, England, and Bohemia, the last-named country producing brown coal (lignite) which finds a ready market in Germany.—*Richard Guenther, Consul-General, Frankfurt, Germany, January 27, 1905.*

Venezuelan-United States Steamship Service.—The agent of the Hamburg-American Steamship Line announces that the German steamship *Valdivia*, which will ply between Venezuela and New York, will arrive at this port February 1 on her return from Curaçao, and leave the same day for New York via La Guaira, accepting cargo and passengers. A new steamship service has been projected from New Orleans to Venezuela, and it has been stated that the first steamer would sail from the former port about the middle of January.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, January 27, 1905.*

American Tobacco and Cigars in Hungary.—In reply to Virginia tobacco houses desiring to export their products to Hungary, United States Consul-General Frank Dyer Chester, of Budapest, reports that he has been informed by the Royal Hungarian Tobacco Regie that its American purchasing agents are L. Borchers & Co., 4 Columbia Block, Richmond, Va., to whom all applications for the sale of American tobacco for Hungary should be addressed. Consul-General Chester further reports that the "Virginia" cigars sold in Hungary by the Government of Hungary are of poor quality.

Hardening Copper.—Under date of February 9, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, reports: It is stated that Mr. A. M. Church and Mr. Charles Cleveland, of Chester, Nova Scotia, have discovered the long lost and much sought for process of hardening copper. A sample of their hardened copper has been received here which seems to be as hard as steel, a penknife failing to make any impression on it.

Penalty for Adulterating Wine in Germany.—The *Frankfurter Zeitung* of January 21, 1905, reports the case of an adulterator of wine brought for his second offense before a judge in Landau. Jacob

Kerth had made wine from grape skins and sugar and put part of it on the market. At an official examination of his wine cellar a large quantity of this wine had been sealed. Kerth sold about 5,000 quarts from these sealed casks, and the penalty imposed by the court was five months in jail and confiscation of the wine (about 20,000 quarts).—*Richard Guenther, Consul-General, Frankfurt, Germany, January 24, 1905.*

Treasury Receipts of Spain in 1904.—In transmitting the following extract from *El Noticiero Sevillano*, of January 19, 1905, United States Consul R. M. Bartleman, of Seville, states that he converted the pesetas into United States currency at the rate of 13½ cents per peseta:

The *Gaceta* has just made public the amount of the treasury receipts for December as well as a recapitulation of the year 1904, according to which the total revenues for December were \$15,010,388, a falling off of \$182,823 compared with the same month in 1903. In 1903 the treasury receipts were \$139,414,481, against \$139,074,422 in 1904, bringing into evidence a decrease in revenues of \$340,059, which has been influenced by reduced industrial and inheritance taxes, cédulas (personal tax), mine and custom revenues, and sugar and transportation taxes. Revenues from other principal items appear to be on the increase.

Although details are wanting, the announcement of the total amounts of receipts and expenditures in 1904 permits forming an idea of the probable result of the estimate concluded December 31, 1904. If, according to the general auditor, the receipts will be \$139,788,225, and the expenditures \$131,851,119, there will be a surplus of \$7,937,106.

New Corporations in Germany.—The following table shows the number and capitalization of stock corporations organized in Germany in the years from 1895 to 1904, inclusive:

Number and capitalization of stock corporations organized in Germany, 1895 to 1904.

Year.	Number.	Capital.	Year.	Number.	Capital.
1895.....	182	\$52,214,400	1900.....	261	\$51,029,480
1896.....	182	63,922,040	1901.....	158	37,663,500
1897.....	254	90,551,860	1902.....	87	28,186,340
1898.....	329	110,341,560	1903.....	84	71,485,680
1899.....	364	129,564,820	1904.....	104	33,474,700

The incorporation of the extensive iron works of Krupp, in Essen, with a capital of \$38,080,000, is included in the data for 1903.—*Walter Schumann, Consul, Mainz, Germany, January 17, 1905.*

New Shipbuilding Plant in Nova Scotia.—The movement to organize a shipbuilding company at this place resulted in the organization, February 8, of such a company under the provincial joint-stock company act. It has secured a 50-acre tract of land and 1,000 feet of water front of good depth on the eastern side of the harbor. Among the directors is a member of a Newcastle-on-Tyne firm of shipbuilders.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 9, 1905.*

Killing Rats in Ships.—The Frankfort News states that it has been shown by proof, based upon scientific research, that the plague is spread by rats and that more attention than heretofore is being paid to exterminating them on ships by disinfection with gases. Very thorough experiments by three physicians on English ships have demonstrated that under ordinary conditions sulphurous-acid gas renders exactly the same services as formaline gas. Experiments in Paris have corroborated this. For ships the use of sulphurous acid in one form or another seems to be the most advantageous. The health authorities of Hamburg have obtained good results from carbon-oxide gas, but sulphurous-acid gas has an advantage, as it kills, at the same time, all bacteria and insects. Sulphurous-acid gas made by burning sulphur in the well-known Clayton apparatus is most recommended. Rats are easily killed by the gas, also plague and cholera bacilli, but not the germs of "Milzbrand," which causes the fatal inflammation of spleen in domestic animals. Cotton and jute bags can also be disinfected in this manner.—*Richard Guenther, Consul-General, Frankfort, Germany, January 24, 1905.*

Exports of Greek Currants.—Under date of February 6, 1905, the American minister at Athens (Mr. Jackson) reports that of the 1904 currant crop of Greece, 173,614,172 pounds had been exported up to the end of December, 1904, being 20,000,000 pounds less than had been exported at the same date in 1903. The exports to the United States, according to Greek statistics, were a little more than 15,000,000 pounds, not much more than one-half the quantity sent in 1903. The exports to the Netherlands about held their own, and those to Germany increased considerably. England occupies first place in the Greek currant export trade, taking about 55 per cent of the whole.

British Enterprise in Bulgaria.—Commercial Intelligence states that the Bulgarian minister has granted to a British syndicate a concession for the establishment of a large cold-storage plant in Bulgaria, with the express object of developing the export trade in produce and meats.

of that country with Great Britain. It is claimed that Bulgarian mutton, "considered equal in quality to Welsh mutton," can be placed upon the British market in twelve days.—*Marshal Halstead, Consul, Birmingham, England, January 30, 1905.*

Canadian Pulp for the United States.—Under date of February 8, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, says the officials of the Lake Superior Pulp and Paper Company, Sault Ste. Marie, Ontario, report that, by contracts, the entire output of the pulp mills for 1905 will be disposed of in the United States, instead of, as formerly, a good portion of it going to England.

Decreased Consumption of Wool in Great Britain.—According to the figures of an expert statistician there has been a great shrinkage in the consumption of wool in this country. The average per capita since 1890 was as follows: 1890 to 1894, 16.35 pounds; 1895 to 1899, 17.13 pounds; 1900 to 1904, 15.73 pounds. The alleged cause is disastrous droughts in Australia greatly increasing the price of wool. While the consumption declined from 524,600,000 pounds in 1900 to 466,900,000 in 1904, the estimated consumption of shoddy increased from 130,000,000 pounds in 1900 to 180,000,000 in 1904. The consumption of home-grown wool has steadily declined year by year, with only two breaks, since 1870, when it amounted to 150,400,000 pounds; in 1904 it was only 94,100,000 pounds. The consumption of foreign wool increased year by year, during the same period, with only one break, from 191,200,000 pounds in 1870 to 423,400,000 in 1901. Since then it has steadily declined. It is predicted that there will be an even greater consumption of shoddy, and inevitably less consumption of wool, in 1905 than in 1904.—*Frank W. Mahin, Consul, Nottingham, England, January 27, 1905.*

Japanese Technical Schools.—Under date of January 26, 1905, United States Consul Marshal Halstead, of Birmingham, England, transmits the following clipping from the Birmingham Daily Mail of January 24, 1905:

JAPANESE TECHNICAL SCHOOLS.

In Japan, according to Engineering, there were, in 1902 and 1903, 9 Government schools, 795 public schools (that is to say, supported by local authorities), and 51 private establishments, besides 3 institutes established by the Government for the training of technical teachers. The Japanese, however, have long recognized that schools, colleges, and universities are not the only—indeed, are not the chief—means of educating men who will be useful in advancing the welfare of their

country, and they have been in the habit of sending their best men—students, professors, manufacturers, and merchants—to the various countries of the world for the purpose of enlarging their experience.

Electrical Combines in Germany.—The seven principal electrical combines in Germany have, with their affiliated financial and construction companies, a total capital of \$109,106,000. Some of them have branches in Russia, Austria-Hungary, Switzerland, Italy, Spain, the Netherlands, and the Balkan States, which have given a strong impetus to Germany's electrical industries. These concerns have \$34,500,000 mortgage loans standing against them, from which must be deducted \$9,000,000, which represents their accumulated reserves.—*Richard Guenther, Consul-General, Frankfurt, Germany, January 24, 1905.*

Cost of Electric Street Railways in England.—In a paper read at a recent meeting of the Tramways and Light Railways Association the cost of building electric street railways in England per mile, single line, was stated to range from £4,000 to £6,000 (\$19,467 to \$29,209). The proportionate costs of the various kinds of work were figured as follows: For rails and fastenings, 22 per cent; special work, 10 per cent; paving material, 30 per cent; cement, sand, and broken stone, 14 per cent; labor, 15 per cent; bonds, cartage, and miscellaneous items, 9 per cent.—*Marshal Halstead, Consul, Birmingham, England, January 25, 1905.*

German Commercial Experts.—The German Imperial Government has added another member to its staff of commercial experts who are attached to important trade centers abroad. The last appointee is a civil engineer who is to be stationed at the German consulate-general at St. Petersburg, Russia.—*Richard Guenther, Consul-General, Frankfurt, Germany, January 16, 1905.*

Silver Mine in Canada.—A vein of silver has been discovered on lands north of Massey and the Bruce mines, near North Bay, Ontario. Four carloads of the ore, shipped to a smelting plant in New Jersey, netted \$60,000, and two more carloads have been forwarded, which it is expected will average \$15,000 per car.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 8, 1905.*

Telephonic Detection of Wine Adulteration.—German papers report that the well-known chemist, Maneuvrier, at Paris, has made the discovery that adulteration of wine with water, other liquids, and

with solids can be detected through the aid of the telephone. Two glasses, one filled with the wine to be tested and the other with a like quantity of wine known to be pure, are placed upon an apparatus resembling a scale and a telephone connected with both liquids. If both wines are pure no sound is heard in the receiver, but if one contains water a noise is produced until a pointer is moved to a given place on the dial plate, whose movement renders the conductivity of the liquids uniform. The gradation on the dial where the pointer stops shows the quantity of extraneous matter in the wine.—*Richard Guenther, Consul-General, Frankfort, Germany, January 18, 1905.*

Belgian and American Agricultural Implements in Canada.—Some of the journals in Belgium, deploring the trade conditions here in certain lines, are encouraged to hope that manufacturers will be forced to compete in other countries. To extend their markets they are advised to specialize on products offering extra advantages. It is alleged that Belgian manufacturers of agricultural implements have entered into serious competition with Americans in what the latter term their own market (Canada), and have succeeded in placing products in greater quantities than have the Americans, heretofore thought to excel in that line.—*James C. McNally, Consul, Liege, Belgium, January 25, 1905.*

Cremations in Germany.—Statistics for the German Empire show a further increase in the number of cremations, there having been cremated 1,381 bodies in 1904 against 1,074 bodies in 1903, an increase of 28 per cent, and double the number cremated in 1901. The Gotha crematory had 301 incinerations; Hamburg, 281; Jena, 189; Mainz, 158; Heidelberg, 155; Offenbach, 123; Mannheim, 74; Eisenach, 56; and Karlsruhe 46. Of the bodies cremated, 908 were males and 473 females; 1,050 were of the Evangelical, 142 of Catholic, and 108 of Jewish faith; 44 were Freethinkers, and 37 were of undetermined religious views.—*Richard Guenther, Consul-General, Frankfort, Germany, January 19, 1905.*

German and American Trade in Shanghai.—Under date of January 19, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, transmits the following: The commercial expert attached to the German consulate-general at Shanghai, in a recent report to his Government, says concerning the importations of metal wares at that port:

The demand for wire tacks is increasing. American competition in this article gets sharper, and the time when the German wire tacks

dominated the Chinese markets has gone by. Half the importations come from the United States, as it can sell cheaper than Germany. Sewing machines and bicycles come mostly from the United States. Pumps have been in greater demand, but German makes do not sell well, owing to the cheaper American pumps. The Chinese have begun to buy steel safes.

Cotton-Spinning Trust in England.—The Lancashire correspondent of a Nottingham newspaper announces the amalgamation of the Federation of the Master Cotton Spinners' Association and the Bolton Master Cotton Spinners' Association, doubtless for the purpose of reducing operating expenses and regulating output. The joint body controls 30,000,000 spindles. The cotton trade in England has been unprofitable for many months. Last year many mills were closed or on short time, while nearly all in operation worked at a loss. The most profitable, according to reports, made only about 1 per cent on their capital. It is believed that closer organization will improve the situation, and if press comments reflect public sentiment, there is no apparent objection to the amalgamation, but rather a feeling that a reasonable profit for the mills will be generally beneficial.—*Frank Mahin, Consul, Nottingham, England, January 30, 1905.*

Picking Apples for Export.—Importers in England say that apples for that country should be packed as tight as possible and be undamaged by frost. The Canadian minister of agriculture has given notice of intention to favor a resolution to amend the act respecting the packing of various commodities so as to provide that "when apples are packed in Canada for export for selling by the box they shall be packed in good and strong boxes of seasoned wood, the inside dimensions of which shall not be less than 10 inches in depth, 11 inches in width, and 20 inches in length, representing as far as possible 2,200 cubic inches." Provision is also made for a penalty of 25 cents on each box of apples not packed in accordance with this regulation.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 9, 1905.*

Oil Discovery in Germany.—Intense interest is manifested by German bankers and business men in the discovery of productive oil fields in the Luneburger Heide. Two days before Christmas oil was reached at a depth of 112 meters (4,409 feet) at Eickeloh, a small town on the Leine River, just above the point where this river joins the Aller. Great excitement prevailed and extensive speculation was indulged in by the people of the town. The well produces daily

16,500 liters (4,372 gallons) of oil, which the experts say is very good. Most of the builders of boring and oil-refining machinery on the Continent were present or had representatives at the opening of the well. Every effort is being made to reduce the imports of American oil and Berlin and Hamburg bankers are much interested in the enterprise.—*J. F. Monaghan, Consul, Chemnitz, Germany, January 20, 1905.*

Spanish Iron Pyrites.—A large quantity of iron pyrites (washed), containing about 49.50 per cent of sulphur, is being produced from a mine in this district. The proprietor, Charles Sundheim, of Huelva, has ready for shipment about 350,000 tons, which can be shipped by pier accommodation in the river Guadiana, boundary of Spain and Portugal, at the rate of about 400 tons per day. Mr. Sundheim has, so I am informed, mineral in his mine to last at least fifteen years, counting on a production of about 70,000 tons per annum. He is in communication with a Continental and an American firm in regard to the sale of the mineral, but is open to further proposals.—*W. J. Alcock, Consular Agent, Huelva, Spain, February 9, 1905.*

Proposed Mint for Canada.—The Canadian Parliament is discussing an appropriation of \$400,000 for establishing a mint, which it is contended is desirable for patriotic reasons, for the advertisement it would be to Canada to have its gold circulating all over the world, and for the effect it would have in diverting to Canada trade now going to the United States. Canadian miners take their gold to American cities, such as Seattle, and it goes to American mints, when, if Canada had a mint, they would bring a good part of it to their own cities and exchange it for Canadian goods.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 8, 1905.*

Pacific and Atlantic Herrings.—A Scotch fish expert who investigated the herring fishery off the Nova Scotia coast last summer and who afterwards went to the Pacific coast to inquire into the herring industry there, reports that the Pacific herring, in the main, are considerably smaller, but contain far more oil than the Atlantic herring; that they are adapted to a class of kippers to be used within a limited time, but are not so suitable to pickle in barrels to compete with the best Scotch or Norwegian species; and that they will not keep so long nor in as good condition as the Atlantic herring, and therefore could not compete with the properly cured article from the Atlantic. It is thought that a good market could be secured for Pacific pickled herring in China, Australia, and the Straits Settlements, as well as in the

Western States. A lot of the Pacific herring was put up in barrels similar to the best Scotch brands and sold well; but as the best salt was not used it is supposed that the quality of the pickled article could be improved. The markets mentioned would also provide an outlet for dry-salted Pacific herring. It is recommended that after the experiment in Atlantic waters is completed next fall, one-half of the staff of the Scotch expert curers be sent to the Pacific coast to put up some herring in the best Scotch method and give instruction to persons desiring to learn it.—*W. R. Hollonray, Consul-General, Halifax, Nova Scotia, February 9, 1905.*

Street Pavements in Athens, Greece.—The city of Athens is to adopt a new system of pavement for its streets, which are macadamized, and the mayor is advertising for tenders. From what he has told me, he will give the preference to asphalt for the principal streets and granite stones for the less important ones. I think there will be time enough for American firms to bid.—*George M. Marino, Vice-Consul, Athens, Greece, February 4, 1905.*

Cholera and Siberian Pest in Russia.—A telegram from St. Petersburg to the *Frankfurter Zeitung* states that from January 24 to 30, 1905, several cases of cholera occurred at Nachtschawan and at Wzatka, from January 25 to 31, eleven additional cases of Siberian pest were observed. A circular of the secretary of the interior to the various governors calls attention to the disease, and says that, according to previous experience, the cholera epidemic will certainly appear again in the spring and summer, and that, in view of its peculiar character in appearing at widely separate places, it is not possible to predict where it will break out. The secretary calls for a timely observance of preventive measures, of which the circular contains information and instructions.—*Richard Guenther, Consul-General, Frankfort, Germany, February 7, 1905.*

American Fruits in France.—United States Commercial Agent Walter T. Griffin, Limoges, France, in his annual report for 1904, which will be printed in *Commercial Relations* for that year, has the following paragraph on American fruits in France:

Within fifteen years the importation of canned, dried, and preserved fruits into this part of France has doubled. California pears, plums, apricots, and peaches are found in every grocery store; and dried fruits of every variety, of better quality than the domestic product, are sold throughout France generally. However, there is still an opening for a large increase in this business, and if the French market is properly approached sales could be doubled.

Fodder Famine in Hungary.—Confirming my cablegrams of August 24 and 29, 1904, I have to report that in the eastern end of Hungary, Transylvania particularly, there is great need of hay, straw, corn, and potatoes for fodder. Moritz Tischler, of Nagyikléd, Szolnokdoboka County, desires fodder and corn for the production of alcohol. Domokos Osváth de Havad, of Kebele (Post Marosvásárhely), landowner, wants 2 tons of large potatoes, with plenty of sugar content, for fattening. Prices in Budapest have gone up to such high figures that import has become absolutely necessary. Shipments can be made by the Cunard steamers to Fiume, the port of Hungary, where S. & W. Hoffmann, forwarding agents, will receive and ship to Transylvania by cross-country freight. It is hoped that the Hungarian ministry of commerce will shortly make special railway rates for foreign fodder shipped via Fiume.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, February 2, 1905.*

Agricultural Fair at Lyon, France.—An agricultural fair (Concours National Agricole) will be held at Lyon, June 3 to 11, 1905, for the exhibition of live stock, milch cows, fancy horses, sheep, oxen, etc. Fishing tackle, guns, and all articles of use in hunting will be displayed, and a place will be set apart for agricultural implements, which should be of interest to American manufacturers. The prizes for machines are 500 francs (\$96.50) in money, and five silver and ten bronze medals. The trial of machines is set for Monday, May 29, and Thursday, June 1, 1905.—*John C. Covert, Consul, Lyon, France, January 31, 1905.*

Canadian Bounty on Steel.—Under date of February 17, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, reports that the Dominion department of trade and commerce issued the first check for bounty on steel rails on February 10, 1905, to the Consolidated Lake Superior Company for \$60,000.

Mules Wanted in Cuba.—The public works department of Santiago de Cuba will, in a few days, advertise for the purchase of thirty young mules, trained to work. All inquiries in regard to the matter should be addressed to Jefe de Obras Publicas, Santiago de Cuba.—*R. E. Holaday, Consul, Santiago de Cuba, February 8, 1905.*

Market for Wood in France.—Although France is giving great attention to the reforestation of the land, it will never be able to meet the domestic demand for wood. Pine wood in large quantities is

imported from Scandinavia, but the prices are increasing, as the wood is brought from longer distances than formerly. Hard woods, especially oak, in almost every variety; spokes, turned and unturned; fellys, adapted for heavy and large wagons and carts, and hubs, generally made of elm or arbor vitæ, are in good demand. All kinds of wood suitable for building houses, carriages, railroad cars, etc., will find a good market in France if the prices asked are not higher than at present. There is a continual demand for staves of all kinds; the large or tun size is preferred, as it gives the French cooper a chance to economize wood and make small casks from what is left over. Uncut staves can pass the customs at a lower duty than those cut and finished; the sale of the débris for kindling wood will almost pay for the preparation of the finished articles.—*Walter T. Griffin, Commercial Agent, Limoges, France, January 15, 1905.*

Inspection of Canadian Coasting Steamers.—A regulation which will excite interest in marine circles has just been issued to the Canadian steamboat inspectors to the effect that all boats trading between one Canadian port and another must be subject to the provisions of the Canadian steamboat act. Heretofore boats which passed the inspection of the English or French Lloyds, the British Council for the Survey and Regulation of Shipping, or the Det Noroke Veritas (Norwegian Lloyds) were exempt from inspection in Canada, and were free to ignore the regulations regarding construction and crew, and considerable feeling on the part of owners of Canadian-built vessels resulted. An enormous amount of tonnage will be affected by the new order. Among the vessels which must be inspected before they again go into commission are the *Ames, Plummer, Pellatt*, and the four turrets of the Canadian Lake and Ocean Navigation Company, the *Thorn, Paliki, Seafield*, and *Monkshaven*, of the Algoma Steamship Company, the *Strathcona, Donnacona, Wacondah*, and *Neepawa*, of the Hamilton-McKay Company, and the *Neetung, Newmount*, and *Wexford*, of Collingwood. The regulation will also apply to yachts brought over from the United States by summer tourists.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 23, 1905.*

Steam Engines in Prussia.—In the last few years the capacity of the steam engines in the Kingdom of Prussia has increased more rapidly than the number in use. The reason is that improvements are continually being made in engine construction and in ways of employing steam. On March 31, 1903, there were in the Kingdom 364,198 steam engines, of which 79,257 were stationary engines, with an average capacity of 53.23 horsepower, and 284,941 were traction

engines, with an average capacity of 12.83 horsepower. A very large proportion of the engines are used for generating electric power. On April 1, 1903, there were in use in the Prussian province of Saxony for this purpose alone 414 engines with 51,828 horsepower, and 101 with 9,475 horsepower used for other purposes, making a total of 515 steam engines with 61,303 horsepower, and giving this province fourth place in the Kingdom, placing it after Rhineland, Westphalia, and Silesia.—*Frank S. Hannah, Consul, Magdeburg, Germany, January 25, 1905.*

Government Monopolies in Bulgaria.—The Bulgarian Government contemplates the creation of several monopolies, similar to those in Greece, in regard to salt, matches, cigarette paper, tobacco, petroleum, and playing cards. I understand that the Sobranje (Chamber of Deputies) has already agreed to the proposed salt, match, and cigarette paper monopolies, in spite of considerable opposition, and that action in regard to tobacco and petroleum is expected before long. There was much talk of the creation of these monopolies in connection with the loan negotiated last summer, and they are by no means popular in the country.—*John B. Jackson, Minister, Athens, Greece, February 13, 1905.*

Dutch India-Shanghai Cable.—The Netherlands Official Gazette announces that the Imperial German Government and the Netherlands Government have agreed that the proposed cable shall be carried from Menado directly to Yap without touching the Palaos, as was formerly intended, and that the cable to Shanghai will be laid from Yap instead of from Palaos. It is further stated that the survey of the sea bottom shows that the Palaos Islands are not suited to be the landing point of a cable, and that therefore the island of Yap is to be used instead. A bill to carry the agreement into effect has been laid before the Second Chamber of the States-General.—*Stanford Newel, Minister, The Hague, Netherlands, February 19, 1905.*

Tramway System of Para, Brazil.—The animal traction tramway system of this city has been sold to an English syndicate, which will install the most modern electric traction within a few months. Mr. Moller, of Moller & Co., bond brokers, New Broad Street House, London E. C., the agent of the syndicate, has just sailed for London with the necessary documents perfecting the deal. He has promised to give me the names of the contractors as soon as they are known. I have every reason to believe that a great part of the materials will

come from the United States, and I give this notice early so that our manufacturers may be informed.—*J. F. Tiedeman, Vice-Consul, Para, Brazil, January 20, 1905.*

Canadian Shipbuilding Bounty.—In reply to a letter from the Assistant Secretary of the Department of Commerce and Labor, dated February 16, and transmitted by the Third Assistant Secretary of State February 18, in regard to a proposed shipbuilding plant at this place, I have to report that a preliminary company has been organized which has purchased 40 acres of water front on the Dartmouth side of Halifax harbor to secure a bonus of \$300,000 offered by Halifax, Dartmouth, and other places. This company will send a committee to Ottawa next week to ask for a bill granting a bonus of \$6 per ton for vessels built in the Dominion. British Columbia is also interested in the latter movement and will have representatives in Ottawa to meet the Halifax delegates. The premier is said to favor a subsidy, but has not committed himself as to the amount. The Dominion is encouraging numerous new enterprises by bonuses to the steel rail, petroleum, lead, fishing, and other industries, and I have little doubt some kind of a bonus will be granted to the shipbuilding interest.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 24, 1905.*

Canton Flannels for Scotland.—Under date of February 15, 1905, United States Consul J. N. McCunn, of Dunfermline, Scotland, reports as follows:

I have an inquiry from a wholesale house in the west of Scotland for the addresses of manufacturers or exporters of what is termed Canton flannels, samples of which I inclose. I am told that a good demand exists for this class of goods in widths ranging from 62 to 72 inches. Samples and price lists from American exporters sent to me will be promptly distributed.

The samples of Canton flannels transmitted by the consulate are on file in the Bureau of Statistics, Department of Commerce and Labor.

Commercial Travelers in Switzerland.—Switzerland issued 6,907 licenses to foreign commercial travelers in 1904, as follows: German, 4,786; French, 1,319; Italian, 415; Austro-Hungarian, 249; Belgian, 65; British, 41; Dutch, 17. American travelers are not mentioned.

Where is the enterprise of our American exporters and manufacturers anxious to extend their trade to foreign markets? Switzerland is an excellent market for nearly all articles our country produces, and is annually visited by thousands of American tourists.—*Richard Guenther, Consul-General, Frankfort, Germany, February 18, 1905.*

American Furniture in the Netherlands.—The import of American furniture in general in 1904 was about the same as in 1903. The principal demand is for roll-top desks. In former years mostly set-up stuff was forwarded, but knockdown material is now generally sent, and, really, this is the only way to have cheap desks brought to Europe in good condition. Set-up furniture very often arrives damaged, and the freight difference costs more than the work on knockdown material here.

Another article which is winning a market is the sectional bookcase. The only impediment to making the demand for it as important as for desks is German competition. The Germans are making bookcases for about the same price asked for the American article, with the advantage of very small freight charges to the Netherlands.

The demand for American chairs is increasing. Office revolving chairs especially are good sellers. Morris chairs were imported in quantities this year for the first time. The demand for veranda and garden chairs has also been good.

Trade in American furniture in the Netherlands could be increased if American manufacturers would make patterns and finish fitted for the Continental market and give quicker delivery of goods.—*Frank D. Hill, Consul, Amsterdam, Netherlands, January 14, 1905.*

Hardening Copper.—Referring to my former report, printed in Daily Consular Reports for March 11, 1905, No. 2203, wherein I stated that two well-known Chester (Nova Scotia) men, Mr. A. M. Church and Mr. Charles Cleveland, the latter a blacksmith, were satisfied they had succeeded in hardening copper, and that E. B. Church had received a piece of metal treated by the process, which appeared to be very hard, I have to report that since then he has received a razor made of their hardened copper, with which one can shave. Having been made in a blacksmith shop the razor is necessarily crude, but the blade is hard and carries a sufficiently sharp edge to remove superfluous hair. The elder Mr. Church writes that by the process the metal can be hardened to any degree. A United States firm has written regarding the discovery. Mr. Cleveland is expected in Halifax in a day or two to make further experiments with more suitable facilities and apparatus than are available at Chester.—*W. R. Holloway, Halifax, Nova Scotia, February 24, 1905.*

American Machine Tools in Germany.—At a recent session at Hanover of the executive committee of the Association of Machine Tool Manufacturers of Germany, it was stated that the existing strike among the coal miners throws an unfavorable light on the social and

political conditions of the country; that the new commercial treaties negotiated with Russia and Austria-Hungary are not advantageous; and that these countries have greatly advanced their tariff rates on German machine tools. In view of the diminished exports of the latter to European countries, it was urged that the German machine tool manufacturers all the more strongly demand efficient tariff protection against the United States, whose exports to Germany grow at a highly alarming rate. The imports of American machine tools by Germany advanced from 698 metric tons in 1902 to 2,079 tons in 1904.—*Richard Guenther, Consul-General, Frankfort, Germany, February 13, 1905.*

International Commercial Congress in Belgium.—The Belgian Government has recently appointed a committee, composed of cabinet officers, members of Parliament, financiers, and industrial leaders, for the purpose of organizing an international congress, to be held at Mons in the latter part of September, 1905. The object of the congress is to discuss commercial economics, industrial development and progress, facility of communication, opening and civilizing new countries, instruction, statistics, customs policy, maritime questions, and questions concerning the civilizing effects of expansion and the means and power of expansion in general.—*George W. Roosevelt, Consul, Brussels, Belgium, February 23, 1905.*

Gas Lighting in Beirut.—A couple of years ago the Beirut gas works, belonging to a French corporation, was bought by Ibrahim Sabbag, one of Syria's wealthy and progressive men, and an honorary dragoman of the American consulate in Beirut. He now operates the plant under an exclusive franchise granted by the Imperial Ottoman Government. There are in Beirut 719 street and 6,400 domestic gas lights, and before long, in pursuance of an agreement reached with the municipality, the number of public lights will be increased to 1,200. It is expected that the number of private lights will be doubled within the near future, and also that the number of gas stoves for heating and cooking now in use, amounting to 1,754, will show an equal growth. All fixtures and stoves now employed are imported from France. Mr. Sabbag has assured me that his company will be glad to receive propositions from American exporters of such articles, including gas engines and piping. Address La Société du Gaz, Beirut, Syria, in French or English (the French language preferred).—*G. Bie Rundal, Consul, Beirut, Syria, January 21, 1905.*

New Mineral Discovered in Ceylon.—Under date of February 1, 1905, United States Consul E. Theophilus Liefeld, of Freiburg, Germany, transmits the following extract from the London Daily Mail, of January 31, 1905, pertaining to the discovery in Ceylon of a new mineral, rich in thoria, to which the name thorianite has been given:

A parliamentary report states that the mineral survey conducted by Prof. W. R. Dunstan, M. A., LL. D., in Ceylon, resulted in the important discovery of several minerals containing the rare earth thoria. A mineral supposed to be uraninite or pitchblende proved on complete analysis to be a new mineral which it is proposed to name thorianite. This mineral is one of the richest known in thoria, of which it contains more than 75 per cent uncombined with silica, and is of very considerable value and commercial importance.

Births and Deaths in England and Wales.—According to the London Mail of February 8, 1905, there were 944,703 births and 549,393 deaths registered in England and Wales in 1904, and the natural increase of population by excess of births over deaths, 395,310, was in excess of the average annual increase in the preceding five years, namely, 380,554. Of the deaths, 137,490 were of infants under 1 year, while 170,936 persons were over 60 years of age. Deaths by violence numbered 19,232. The birth rate, 27.9 per 1,000, was the lowest on record. The death rate, 16.2 per 1,000, was 0.8 per 1,000 above the rate in 1903 and 1 per 1,000 below the average of the ten years, 1894 to 1903. — *E. Theophilus Liefeld, Freiburg, Germany, February 9, 1905.*

Australian Wool Exports to the United States.—In comparison with former years the exports of wool this season from Australia to the United States show a very large increase, the gain over last season being over 100 per cent. The number of bales shipped to the United States from the ports of Australia from the beginning of the season to date was as follows: Melbourne, 50,074; Sydney, 19,555; Brisbane, 188; Adelaide, 161; total, 69,978 bales, valued at nearly \$6,000,000. It is anticipated that by the end of the season 75,000 bales will have been shipped to the United States.—*John P. Bray, Consul-General, Melbourne, Australia, January 20, 1905.*

Coast Steamship Service in Venezuela.—The Hamburg American Line, in addition to its monthly steamship service between Venezuela and New York, has announced the inauguration of a coast service between various Venezuelan ports. For this purpose the steamer *Tillis*

has been engaged for traffic between Maracaibo and Ciudad Bolivar, touching at all the ports of the coast. This steamer is announced to sail from Puerto Cabello probably on February 5 or 6 for Tucacas, La Vela de Coro and Maracaibo, carrying cargo and passengers.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, February 2, 1905.*

Haitian Fishing Rights.—The Government has granted to four of its citizens a fisheries concession in the waters to the west and south of the Republic for nine years, renewable at the end of this period. It covers all classes of fishing—coral, sponge, pearl, oyster, and turtle. Heretofore the industry was free to all, but those principally engaged in it were Greek. Under the concession these people, as well as others, will be prohibited from fishing in these waters unless they rent the privilege from the concessionaires.—*W. F. Powell, Minister, Port au Prince, Haiti, January 24, 1905.*

Motors for Scotch Fishing Boats.—A noteworthy innovation in the fishing industry of Scotland is the introduction of boats propelled by motors. Experiments have demonstrated the great advantages of such boats over sailing craft in calm weather or when the wind is unfavorable. Inasmuch as the Scotch fishing fleet comprises fully 10,000 boats working at line and net fishing, in addition to 100 or more steam trawlers, the demand for marine motors may become important.—*Rufus Fleming, Consul, Edinburgh, Scotland, February 16, 1905.*

Borax in Mexico.—The only importers of borax into Mexico are the United States and Germany, the latter country sending the largest amount. The German product contains more water than the American borax. This fact is readily detected, as most of both kinds imported is used for mining purposes, and the American borax is preferred. I am unable to ascertain the tonnage of the large amount of imports as borax is classed under the head of "chemicals" in the custom-house reports. It is used by nearly all the miners here, many of them buying in 2,000-pound lots or more. In my opinion American exporters could increase their sales largely by making special efforts to reach the mine workers and by calling attention to the superior quality of the American product. They should send only the best quality unless a cheap kind is wanted.—*Louis Kaiser, Consul, Mazatlan, Mexico, February 1, 1905.*

Corsets and Women's Attire in Hungary.—While Budapest has about fifty corset makers, Hungary (including Croatia-Slavonia and Fiume) imported 205,028 pounds of corsets in 1904, valued at \$183,309, mostly from Austria, the rest from Belgium, France, Germany, Italy, and Great Britain. The exports, 2,646 pounds, went entirely to Austria. Hungary is a first-class market for women's attire of all kinds, and there is no reason why specially prepared American articles of dress with attractive names and forms should not be introduced. The leading dealers and importers in Budapest are Mmes. Keifel and Hirsch, IV Váci utca 10.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, February 14, 1905.*

Inquiry for Ice-Making Plant Catalogues.—This office has just had an inquiry from a large engineering concern in Bangkok for up-to-date catalogues on ice-making plants. American manufacturers of such machinery are requested to forward catalogues of their machines, together with complete data as regards terms of sale and payment, freight, prices, and detailed specifications.—*Joseph P. Selden, Vice-Consul-General, Bangkok, Siam, January 24, 1905.*

Silk Production in Argentina.—During the last two years about 5,000,000 mulberry trees have been planted in Argentina, which has now about 10,000,000 of such trees. The production of raw silk will eventually become an important product of that country.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 13, 1905.*

Canadian Contracts let to Americans.—The Sydney Cement Company, Sydney, Nova Scotia, incorporated with a capital of \$500,000, to manufacture cement from slag, a by-product of the Dominion Iron and Steel Company, have awarded the contract for erecting their factory to C. J. Curtis, and for the necessary machinery to the Ruggles Coles Engineering Company, both of New York City. The plant will cost about \$225,000, and will have a capacity of 500 barrels of cement daily. A large cooper establishment will also be built, with a capacity of 50,000 barrels annually.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 24, 1905.*

German Trade in Abyssinia.—A syndicate of German merchants, manufacturers, and exporters is being formed to open avenues for trade with Abyssinia, and as soon as the German expedition to that country

returns and reports German commercial travelers and technical experts will be sent thither to investigate and establish business connections. It is expected that the German Government will support the enterprise. Next month the newly organized "German Bank for East Africa" will begin operations at Dar-es-Salaam, with branch offices in Zanzibar and Mombassa.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 18, 1905.*

Calcium Carbide Duty Free in Chile.—By a law promulgated on December 29, 1904, calcium carbide has been placed on the free list. The intention of this law is to so cheapen the cost of the production of acetylene gas as to make it a practicable illuminant for the numerous estates and small centers of population for which illuminating gas and electricity are not feasible.—*Edward Winslow Ames, Secretary of Legation, Santiago, Chile, January 10, 1905.*

Tenders for a Bridge in New Brunswick.—Under date of February 24, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, reports that the department of public works at Fredericton, New Brunswick, is inviting tenders for rebuilding the Forks bridge over Eel River, Shannonvale, in that province.

Cost of English Goods in Liberia.—Under date of January 26, 1905, United States Minister Lyon, of Monrovia, transmits the following copy of a bill from an English house for ordinary stovepipe. The bill affords a fair sample of the prices of articles of its kind, and ought to enable American merchants to realize the margin of profit in the sale of such goods in Liberia:

Original cost.—Eighteen feet smoke pipe, \$6.48; 4 extra joint lengths, \$3.36; 1 elbow, 60 cents; total, \$10.44.

Charges.—Freight and primage, \$3.58; packages and rail carriage, \$2.16; postage, etc., 18 cents; insurance and policy, 24 cents; consular fee, 6 cents; bank commission, 6 cents; total amount of bill, \$16.72.

Branch Line of the Grand Trunk Pacific Railway.—The main line of the National Transcontinental Railway, east of Winnipeg, Manitoba, will lie far north of Lake Superior, and the Grand Trunk Pacific Company, says *The Globe*, will be under the necessity of constructing a branch line 200 miles long to Thunder Bay. This necessity was foreseen from the outset, and much curiosity has been

manifested regarding the precise spot to be selected for the lake terminus. All speculation on the subject seems to be set at rest by the announcement that plans have been filed as a basis for the expropriation of the shore of the Kaministiquia River opposite the Canadian Pacific Railway site at Fort William, Ontario. The land on that side of the river belongs to the Indians, and the indications go to show that the transfer of the property will be effected by friendly negotiations. The construction of the extensive harbor works described in the plans will give an indefinite but powerful impetus to the growth and prosperity of the town of Fort William.—*W. R. Holloway, Halifax, Nova Scotia, February 15, 1905.*

Bolivian Duties Payable in Gold and Silver.—Under date of December 8, 1904, United States Minister William B. Sorsby, La Paz, Bolivia, reports that the Bolivian Congress passed a law, which was promulgated by executive decree on December 2, 1904, to the following effect:

The pound sterling, or English sovereign, shall be accepted as the equivalent of 12½ bolivianos. From January 1, 1905, 50 per cent of the custom-house duties shall be payable in gold, at the rate of 12½ bolivianos per pound sterling. In case of a part or all of the 50 per cent being paid in silver, the quota so paid shall be assessed 5 per cent. Fractions less than 12½ bolivianos in value may be paid in silver without assessment. The exportation of coined silver is declared free and its importation into the Republic is prohibited under penalty of the law. The executive power is empowered to order suspended, at the proper time, the coinage of silver.

Prunes in Brazil.—The official trade journal of Austria states that there is a large demand for prunes in Brazil, which is supplied by imports from France. The French prunes come in tins containing 5 and 10 kilograms (11 and 22 pounds) and in wooden boxes containing 50 kilograms (110 pounds). Some are packed in glass bottles of one-half and 1 kilogram (1.1 and 2.2 pounds). Last October the price paid for French prunes, c. i. f., Rio de Janeiro, per box was about 45 francs (\$8.68).—*Richard Guenther, Consul-General, Frankfort, Germany, February 7, 1905.*

Oil of Turpentine and Influenza.—Influenza has been for some time past very prevalent in Germany, extending to horses, which are, in some instances, quarantined. The Frankfort News states that in 1890, when influenza was epidemic throughout Europe, many workmen contracted the disease in three watch factories at Madretsch and

a number died. At one factory at Madretsch, however, the disease did not appear. Investigations showed that oil of turpentine was used in the turning of the metals used for watch cases, and the oil becoming warm evaporated and the workmen inhaled the air laden with it. This seemed to protect them against the disease. Since then oil of turpentine has been always evaporated in that factory upon a stove, and not a case of influenza has ever occurred there. This preventive measure is successfully employed in dwellings, and the inhaling of water vapor with oil of turpentine is said to act favorably on the affected respiratory organs.—*Richard Guenther, Consul-General, Frankfort, Germany, February 9, 1905.*

Wireless Telegraphy in Canada.—At a recent meeting of the Marconi Wireless Telegraph Company in London it was stated that in view of the commercial demand between England and America a new station with the latest improvements had been nearly completed in Canada. With a rate reduced to 6d. (12 cents) a word the directors thought that two wireless stations would be fully employed during the year. Four stations have been equipped on the St. Lawrence, and a new contract has been entered into with the Canadian company for the extension of the system of wireless-telegraph stations already established to the order of the Canadian government. Five stations have also been equipped at fishing centers along the Labrador coast. When other stations contemplated in Canada have been erected there will be a chain of stations, and they will afford the Newfoundland government direct wireless communication between the Labrador coast and Canada.—*W. R. Holloway, Halifax, Nova Scotia, February 24, 1905.*

Proposed Production of Railway Supplies in the Transvaal.—The London correspondent of the Birmingham Daily Post states that it is the intention to expend a large sum for the establishment of railway material works, to produce rails, rolling stock, and locomotives in the Transvaal. The authorities estimate that economies of from 7½ to 10 per cent may be effected on the basis of the capital expended, and the correspondent understands the scheme has the approval not only of the governor-general but also of the Imperial Government.—*Marshall Halstead, Consul, Birmingham, England, February 10, 1905.*

Canadian and American Lumber Tariffs.—At a recent annual meeting of the Canadian Lumberman's Association the free importation of Georgia pine into Canada was discussed at some length and a resolution was unanimously passed indorsing the decision to meet Sir Wilfrid Laurier with a view to securing, if possible, reciprocal legis-

lation governing the tariff on lumber coming into Canada. American lumber enters Canada free, while the duty on Canadian lumber entering the United States is \$2 per thousand feet.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, February 24, 1905.*

British Cotton Growing Association.—The Westminster Gazette, commenting in its issue of February 6 on the cabled statement that there is a big movement in the New England States for a cotton trade amalgamation, remarks that it is not very encouraging to learn that the recent stock issue of the British Cotton Growing Association was anything but the triumphant success which was generally predicted for it, as only £160,000 (\$778,640) was subscribed of £500,000 (\$2,433,250) wanted. This is not, in the opinion of the Gazette, creditable to Lancashire, the cotton manufacturing center, "especially in view of the fact that an abundant and regular supply of the material is all important."—*Marshal Halstead, Consul, Birmingham, England, February 8, 1905.*

Proposed Prohibition of the Export of Canadian Pulp Wood.—A meeting of the paper and wood pulp manufacturers of Canada was held in Montreal a few days ago at which it was unanimously resolved that, in the interests of the Dominion, and especially of the province of Quebec, every effort should be made to obtain legislation to prohibit the export of logs and pulp wood. A special committee was appointed for the purpose of preparing a petition to lay before Parliament, now in session at Ottawa.—*W. R. Holloway, Consul, Halifax, Nova Scotia, February 24, 1905.*

Mosquitoes and Malaria of Old.—Under date of February 8, 1905, United States Consul Marshal Halstead, Birmingham, England, reports that in the London Times of the same date there was a cablegram from Colombo, Ceylon, dated February 7, in which the statement is made that Sir A. J. Blake had announced, at a meeting of the Asiatic Society, that Singhalese medical books of the sixth century recorded 67 varieties of mosquitoes and 424 kinds of malarial fever caused by mosquitoes.

Silk Culture in Russia.—The Government is promoting silk culture in Russia by distributing silkworm eggs free of charge, and sending out teachers to instruct the peasants how to feed and treat the worms. It has also sent teachers from public schools of the southern provinces to the agricultural colleges at Uman and Charkow, where they hear lectures on silk culture.—*Richard Guenther, Consul-General, Frankfort, Germany, February 13, 1905.*



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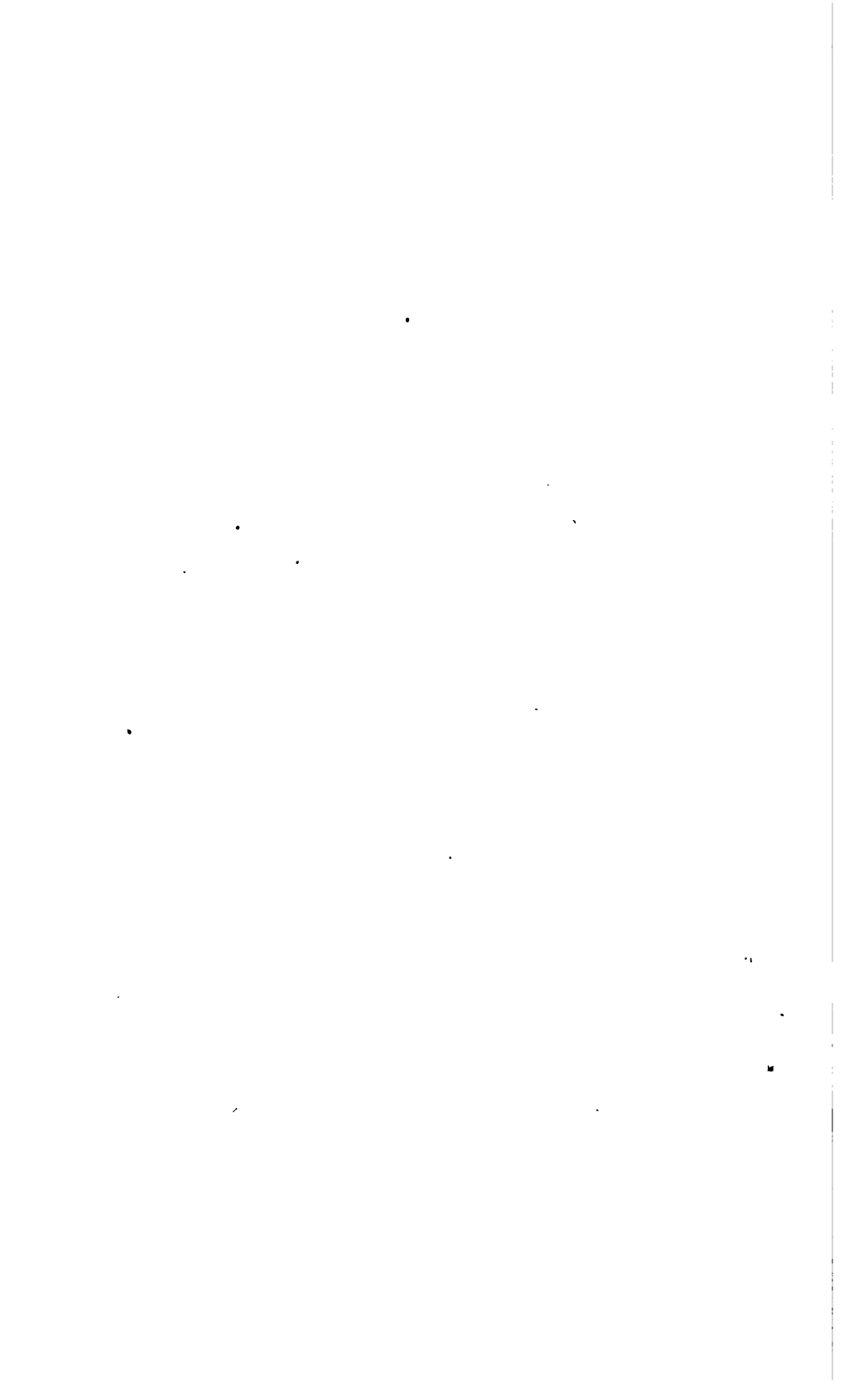
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AMERICAN HOUSEKEEPING MACHINES AND FIXTURES IN GERMANY.

(From United States Consul-General Mason, Berlin, Germany.)

The attention of American manufacturers of improved house and hotel-keeping machines and appliances, such as meat cutters, carpet sweepers, egg beaters, etc., is invited to the fact that articles of this class are now very largely sold in Germany by department stores, of which there are three in Berlin and one or more in every large German city. It is fully recognized that in respect to these improved appliances, which go so far toward lightening the labor of housekeeping, Americans hold easily the first place for both the ingenuity and the number of their creations. Hitherto this class of goods has been principally imported into Germany by one or two large hardware houses located at a German seaport and distributed thence to retailers; but the department stores have become such colossal concerns, with aggregate annual sales running into many millions of marks, that they feel entitled to derive their supplies of imported as well as domestic goods first hand. It is therefore suggested that American exporters of all housekeeping fixtures, as well as dried and preserved American fruits, would do well to send competent German-speaking salesmen with samples and catalogues, in which weights, dimensions, and values are given in metric and German units, to make a round of the German cities with special reference to supplying department and other large retail stores at first hand. This suggestion is made at the request of parties who are not only directly interested in the subject, but are thoroughly informed concerning it.

It should be borne in mind, however, that whenever possible every original and improved fixture of this kind should be protected by patent or trade-mark before being sold in Germany, or, indeed, in any foreign market, since Europeans have become very clever and prompt

in imitating improvements from the United States, and the imitations are often sold as American-made goods.

FRANK H. MASON, *Consul-General*.

BERLIN, GERMANY, *February 7, 1905.*

OPENING FOR STREET-CAR FENDERS IN VIENNA.

(*From United States Consul Rublee, Vienna, Austria.*)

No street-car fenders or other similar devices to prevent accidents are used by the street-car company in Vienna at present. The street cars are not equipped with such devices in Vienna because, in the opinion of the management, nothing has been invented that provides a satisfactory safeguard against accidents. The Vienna Street Car Company some time ago instituted a competitive trial of safety devices, and received no less than 852 designs, of which, however, only 16 were considered to be worth testing. These 16 devices were lately subjected to a thorough trial in the presence of experts and not one of them was found adequate. In the belief that American street-car fenders might possibly answer the purpose, I wrote to the manager of the Vienna Street Car Company, suggesting that he enter into communication with American companies constructing car fenders. He replied that he subscribed to a number of American street-car publications and kept fully posted on American street-car systems, and that there was no American safety device that satisfactorily provided against accidents. It hardly seems possible that he is correctly informed. It might be well therefore for such American firms as have perfected safety devices for street cars to submit them to the Vienna Street Car Company. There is certainly an opportunity to sell such devices if it can be proved that they accomplish the purpose for which they are intended.

W. A. RUBLEE, *Consul-General*.

VIENNA, AUSTRIA, *February 15, 1905.*

COMBINES IN GERMANY.

(*From United States Consul-General Guenther, Frankfurt, Germany.*)

Weavers.—A league of German manufacturers of variegated weavings has just been formed at a convention held at Berlin; 74 factories running 31,159 looms were represented, and proprietors of 32 additional factories having 13,400 looms made statements to the effect that they would join the league later.

Brickmakers.—The brickmakers of Hesse, the Palatinate, and the principal part of the Grand Duchy of Baden have formed a syndicate

to regulate the production of brick and to protect the interest of the trade.

Electrical manufacturers.—Twenty-eight firms belonging to the Union of Electrical Manufacturers, whose membership comprises over 200 European firms, recently met in convention at Munich and organized a cooperative society for the purpose of purchasing supplies for their manufactures.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 3, 1905.*

BOHEMIAN LACE AND TRIMMINGS.

(*From United States Commercial Agent Twells, Carlsbad, Austria.*)

About 30 miles from Carlsbad, but reached only after a railway journey of four hours on account of its elevated situation in the mountains, is a town of about 10,000 inhabitants which has since 1870 been known throughout Europe as a place where excellent trimmings are made. This place, Weipert, is little known in the dry goods trade of the United States, and as I think it may be useful to some merchants in this line of business I have obtained the following information in regard to it from an interview with one of the manufacturers:

There are about 20 manufacturing concerns at Weipert in which trimmings of all kinds are made, but mostly what are called Klöppel (bobbin) articles, galloons, braids, laces, loops, drops, yard goods, machine goods, etc. There are about 10,000 workmen living in the district of Weipert, and the trimmings made there have a first-class reputation in Austria. As the wages are very low in the Bohemian mountains the prices of goods are likewise low.

During the past few months two firms of Weipert have had invoices certified at the Carlsbad consular offices, and this proves that Weipert goods are now being sent to the United States.

JNO. STEEL TWELLS, *Commercial Agent.*

CARLSBAD, AUSTRIA, *February 17, 1905.*

ORIGIN OF THOROUGHBRED AND ARAB HORSES.

(*From United States Consul Halstead, Birmingham, England.*)

Mr. R. Lydekker has written a letter, dated at the British Museum, to the editor of the London Times requesting that skulls of pedigreed horses be given to the British Museum. He says that it was "recently discovered that a horse skull from India, in the Museum, showed a slight depression in front of the eyes, evidently representing the pit

for the face gland (like that of a deer) which existed in the extinct three-toed hipparions or primitive horses," and a similar depression has been noticed in the skulls of the racers Stockwell and Ben d'Or, and an Arab horse, and Mr. Lydekker and Professor Lankester had on the day the letter was written ascertained that it exists in the skulls of Eclipse, Orlando, and Hermit, and knew that it existed in a less rudimentary condition in the fossil true horses of India.

They had, however, failed to find it in the skulls of any of the ordinary English or Continental horses, and "it appears to be lacking in horses' skulls from the drift and turbary of Europe."

Mr. Lydekker says:

Briefly stated, this face-gland rudiment exists in the skulls of all thoroughbred and Arab horses that have come under our notice, and it is absent in those of European horses. The presumption accordingly is that the Arab and the thoroughbred (as has been suggested on other grounds) have an origin quite apart from the horses of western Europe, presumably from an eastern form related to the fossil horses of India.

To convert this assumption into a certainty requires a much larger series of pedigree horse skulls than the Museum now possesses.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *February 15, 1905.*

AMERICAN MACHINERY AND TOOLS IN THE NETHERLANDS.

The following report upon American machines and tools—agricultural implements in particular—was prepared by Messrs. Landre and Glinderman, of Amsterdam, and formed a portion of the annual report of United States Consul Frank D. Hill for the year 1904:

The only agricultural implements which we import from the United States are mowers. This trade was very good last season and is increasing every year. We do a good trade with the United States, a good deal more in the engineering line than in the agricultural line, however. The greater part of the machine tools sold in this country during the last few years are of American make.

Though the cost of hand labor in this country is not so high as in the United States, the use of labor-saving machinery is justified, such machines being already in use here to some extent. Modern agricultural implements, especially harvesting machinery, are used in this country, but it is impossible to state to what extent; most of them are imported from Great Britain and some from Germany. Harvesting machinery of American manufacture is generally used here, but with this exception the sale of American agricultural implements, vehicles, and wagons is unimportant, on account of their very light construction, which is not liked here.

The best method of increasing the trade in American agricultural implements in this country will be to appoint reliable agents, to provide them with a sufficient stock of the patterns and implements which

will be likely to find a market here, and to permit them to send out a number of machines on trial with the farmers. This, of course, is a rather expensive experiment, but will be the only way to bring success.

Agricultural implements can be imported into this country free of duty. It is possible, however, that a duty may be imposed, as a change in the tariff is being considered by the States-General of the Netherlands.

STEEL BRIDGE SPANNING THE ST. LAWRENCE.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

A steel bridge now under construction over the St. Lawrence River at Quebec is a remarkable structure. The weight of this bridge will be about 35,000 tons. Its span of 1,800 feet crosses the entire St. Lawrence River at such a height as not to interfere with navigation, and will be the longest in the world, the Forth bridge in Scotland being 1,710 feet long, the Brooklyn bridge 1,680 feet, and the new East River bridge in New York 1,600 feet. There have been manufactured by the Phoenix Bridge Company, Phoenixville, Pa., to date, and partly shipped to the site of the bridge, about 10,000 tons of steel. It will take about two more years to complete the structure. The masonry piers are entirely finished, and the temporary false works, of steel, are now in place on the south shore, upon which erection will begin at the opening of spring this year. The 1,800 feet of steel-bridge work between the piers will be erected without any false work in the river. The bridge is to be 80 feet wide over all, carrying a double-track railroad, a double-track trolley and highway, and two sidewalks. Many novel features have been adopted in the design and manufacture of this bridge. The total length of the bridge will be 3,300 feet; length of channel span, 1,800 feet; ship clear headway, 150 feet above highest tide; height of cantilever towers, 360 feet above the river. The Phoenix Bridge Company are the contractors for the superstructure.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *February 24, 1905.*

TRADE MARTS OF CHEKIANG.

(From United States Consul Anderson, Hangchow, China.)

TRADE SYSTEMS IN CHINESE CITIES.

The situation of the trade in foreign goods in those portions of China which are still characteristically Chinese is such that attention at the present time should be paid to direct solicitation and a particular showing of goods for sale if anything is to be accomplished. One

reason why the Japanese have been so successful in introducing large volumes of goods of certain classes in some parts of China is because they have not only studied the trade to be supplied, but they have gone after each particular dealer in the field, working and presenting their goods in the manner of traveling salesmen in the United States. It is probable that American business men can accomplish something by correspondence and catalogues, and with this end in view I send with this report a list of the business hong or houses in the several large cities in this consular district, both native and foreign, which handle foreign goods.

In China, unless a house is connected with some one of the guilds which control some lines of trade, it is likely to be very general in the nature of its stock, and this is especially true of hong dealing in foreign goods. Unless it is specified that a house deals in certain lines of goods, it is to be understood that it handles a general stock, and is open to propositions from almost any sort of a business house. The majority of them at the present time sell the cheaper grades of the following articles: Cotton goods, small towels, notions, such as gaudy mirrors, combs and brushes, toilet soaps, cotton belts and sashes, ribbons, clocks and watches, enameled-ware wash basins, pocketknives, fancy bordered handkerchiefs, canned goods—in short, almost anything that is likely to attract the eye and not strain the pocketbook of the average Chinese buyer. But the market for foreign goods in China really ought not to be considered as being limited to such classes of goods. Other classes of goods than those of the character named, however, must naturally be the subject of more careful negotiation, and the trade in them means more to the country obtaining it.

There are three customs ports in Chekiang Province, Hangchau, Ningpo, and Wenchau, of importance in the order named. The customs returns for the year just closed shows that the trade of Ningpo and Wenchau is somewhat on the decrease, but there is no reason why this should continue to be the case, and it is probable that more direct work with their merchants on the part of foreigners will turn things the other way.

HANGCHAU.

The trade of Hangchau is rapidly increasing, although the port is comparatively new. It is probable that the best, if not the only way of getting at the retail trade of the city is through the wholesale houses, of which there are four: (1) Hen To Li, (2) I Shun Lung, (3) I Ho Shang, and (4) Tien Li. The first named is the largest establishment in the city. It handles goods of nearly all kinds, but makes a specialty of clocks and watches. No. 3 handles cotton goods and some foreign woollens. Yih Kun Shun and Ching Mow & Co., at the Hangchau customs settlement, make a specialty of foreign canned and bottled goods and provisions.

The largest establishment in the city dealing both wholesale and retail is that of Chen Sung Mao. It is considered a very fine store by the Chinese. Others of good standing in the city are those of Wen Ti and Hien Si Hen. Another store, that of Yu Shin Swen, is new, and seems to be rapidly taking rank among those of the first class in the city.

Goods for Hangchau come by way of the Grand Canal from Shanghai. They can be sent through under bond or by transit pass. Freight rates from Shanghai to Hangchau are higher than they have been, but are still reasonable, and, as a rule, goods are transported without damage. The population of Hangchau and its trade suburbs numbers nearly a million people. The country around it is considered unusually prosperous by the Chinese, and its diversity of crops, unusual for some parts of China, give it fairly uniform purchasing power.

KIAHING.

Halfway between Hangchau and Shanghai, on the Grand Canal, is Kiahing, a city of about 100,000 inhabitants, and chiefly important as the trading center of a prosperous district. Reports from Kiahing as to foreign trade, however, are not very flattering, the few foreign goods sold there being of the cheapest Japanese make. About 20 per cent of the goods passing through the customs at Kiahing are foreign, but not more than 5 per cent are consumed in Kiahing, the rest going, under transit passes, to Huchau, Pinghu, Singesz, Huchun, Haining, Haii, and Yuyang. The trade is almost altogether in aniline dyes, artificial indigo, cigarettes, candles, clocks, condensed milk, glass (colored and plain), lamp chimneys, matches, metals, and umbrellas. There are five shops in the city which handle foreign goods, but they do not present a very imposing appearance. They all carry general stocks, consisting mostly of cigarettes, clocks, candles, perfumes, mirrors, enameled ware, cotton towels, cotton blankets, gray shirtings, sheetings, drills, chintzes, jeans, T cloths, and a small quantity of notions. Their stocks are replenished in small quantities, which come in native hong boats from Shanghai. There is no reason, however, why there should not be direct foreign trade. Canal freight rates are almost as high for Kiahing as they are for Hangchau, but with anything like a regular trade, arrangements with native boats could easily be made which would give very cheap freight rates. The five houses handling foreign goods are, in the order of their importance: (1) Heng Tak Lee; (2) Yik Heng Shang; (3) Lun I Shing; (4) Yi Dah; (5) Fung Dah.

It seems probable that Kiahing will become an independent customs station in a short time. At present it is an outpost of Hangchau under the title of the eastern Chekiang substation. Practically all of the opium coming into this vicinity is handled through Kiahing customs and by Kiahing dealers.

SHAOHING.

One of the most progressive and enterprising cities in this consular district is Shaohing, situated almost halfway between Hangchau and Ningpo, and connected with both by canal. The city has several hundred thousand inhabitants and has been subjected to foreign influence longer than any other place hereabout. There are very many stores handling foreign goods, more than in any other near-by city, in proportion to the population. Most of the goods pass through a few wholesale houses, however, and it is probable that the trade can be reached through them better than in any other manner. These houses also reach a large number of smaller stores in the towns and villages in the district about Shaohing.

There are five wholesale houses in Shaohing dealing in a general line of foreign goods, ranking as follows: (1) Kuang I Feng; (2) Sheng Chi; (3) Fu Sheng Hêng; (4) Hung Yuan Tai; (5) Hsich Hsing Lung. These houses send goods of a miscellaneous sort over considerable territory. In addition to the foregoing are the following more or less extensive establishments, ranking as indicated, some of which sell at retail: (1) Ch'ang Tai Feng; (2) Jih Hsin Shêng; (3) Tung Ch'ing Fêng; (4) Tai Feng Hsiang; (5) Kuang Chū Hsing; (6) Loa Tung Chi; (7) Wang Hsiang Sheng; (8) Yū Lou Ch'un; (9) Jên T'ai. Another shop, that of Lu Yung Hsing, deals in hardware and kerosene, the stock of the former being fairly extensive, including door and other carpenter's hardware, nails, locks, screws, and the like.

The shops which sell foreign "piece goods" or dry goods, including woolen goods of several varieties, though not on an extensive scale, are Tao T'ai Sheng, Ch'ien T'ai (two shops), T'ien Fu Feng, Tai Lai, Ta Lai, Ta Sheng, E Ta, T'ai Hô, and Sheng Feng. There are also three stores selling notions and foreign-made shoes of a cheap order, namely, Shaohing Hsich Tien, Mei Hua Hao, and Feng Ch'eng Hao. Foreign clocks and watches are handled by Yū Yuan Hsing.

Most freight for Shaohing is handled through the seaport of Ningpo. The rates from Ningpo to Shaohing are reasonable. Considerable freight for Shaohing also is taken by native boats from Shanghai, but there is no through line of steam launches from either point as there is with most other places of importance in this part of China. So far as practical business is concerned, however, Shaohing is as favorably located as any other inland point, and it has the advantage of possessing a large trade of its own in goods which the people of many other places are accustomed to buy in Shanghai. Goods are taken to Shaohing from the coast under transit passes.

NINGPO.

The situation at Ningpo is rather peculiar. The city is one of the original five treaty ports in China and has a long record of foreign

trade. It has been subjected to foreign influence almost as long as any city in China, and has been a stronghold of mission work for about half a century. Yet the official report of the customs service for the first nine months of 1904 shows a decrease in trade, notwithstanding favorable conditions and an increase in trade all over China. The city is well located for direct trade with the United States, although no lines of steamships are now giving direct service, almost everything at present passing through Shanghai. Apparently the only firm selling American dry goods is that of Kung Kee & Co., but this firm handles such goods in large volume and has the nucleus of an immense business. Ningpo takes a good supply of American flour, which may also be said of all the cities of the district. Ningpo also uses considerable American kerosene, bought of the Standard Oil Company, and in this, also, it follows the record of the district as a whole.

HUCHAU.

The city of Huchau, one of the oldest in this part of China, and yet one of the most promising points for foreign trade in the near future, is situated on a branch of the Imperial Grand Canal which connects the main canal with the great lake. The city is about 40 miles from Hangchau. It does practically all of its foreign trade through Shanghai, clearing it by transit pass through the customs at Suchau. The freight rates from Shanghai are proportionate to the charges for other cities in the province, and the launch service from the coast is above the average. The city has about 125,000 inhabitants and is prosperous.

There is no firm in Huchau dealing exclusively in foreign goods, but the number dealing more or less in merchandise of foreign make is unusually large. The eleven largest hong's in the city rank as follows: (1) Ta Fêng; (2) Yuan Ch'ang; (3) Chia Shêng; (4) Ting T'ai Fêng; (5) Ch'ing Ch'ang; (6) Ying K'ang; (7) Chi Yuan; (8) Chiu Hêng; (9) E Hô Hsiang; (10) Tung Ch'un; (11) T'ien Chang. These stores sell foreign cloth in great variety, mostly cheap cotton goods, sheetings, jeans, a little cotton flannel, shirtings, chintzes, and the like. Practically all of them handle foreign opium. Four firms handle considerable quantities of provisions, tobacco, notions, and small goods of a general nature. They are (1) Tung Jên Ch'ang; (2) Tung Ta Fêng; (3) Hsin Yuan; (4) Hsich T'ai Ho. Seven firms handle drugs, provisions, tobacco, and notions, including cheap ribbons, cheap toilet goods, brushes, fancy metal boxes, and the like. These are (1) Ch'ing Ch'ang; (2) Ching Hsi; (3) Chia Chu; (4) Ching Ying; (5) Yung Fêng; (6) Lao Tê Chi; (7) Chiu Chang.

WENCHAU.

The situation in the trade of Wenchau is rather peculiar. The port is one of the few ports in China which show a decrease in volume of

business last year, the falling off there being marked. Wenchau and Ningpo require special care and attention and will receive special investigation. Wenchau is retarded in its trade advance by the fact that it has little hinterland; yet the country from which it draws trade and to which it sends goods is rich, so far as it goes. There is some promise of good foreign trade in Wenchau. Heretofore it has taken a good supply of foreign cottons, notions, toilet goods, and the like, and apparently there is no reason why this trade should not be further developed.

TRADE OUTLOOK.

What has been said of one port in this district is in general true of all others. There is trade to be had, but it must be gone after. At present the Japanese are watching the markets in this province very closely. They are supplying it with a very large share of the cheap, flimsy notions and light cottons which make up much of the trade, and there is no doubt that they are looking to this trade in small things as much for its future promise as for its present profits. There is reason to hope that in the approaching construction of railways in the province American materials will be called for very extensively. In every line of trade there is abundant encouragement for American trade, but trade can not be had without effort, and competition in this part of China at least will be keen in the near future.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 18, 1905.*

TIMBER WEALTH OF CANADA.

(From United States Consul Seyfert, Stralsford, Ontario.)

A few figures from the Canadian trade returns will show how rapidly the importation of wood into the United States is increasing. The value of Canadian exports of wood and manufactures thereof to the United States during the years 1898 to 1903 was as follows: In 1898, \$9,840,524; 1899, \$10,511,019; 1900, \$14,087,088; 1901, \$13,176,717; 1902, \$16,682,183; 1903, \$18,823,878. This shows an increase in 1903 over those of 1898 of \$8,983,354. The total export to all countries in 1903 amounted to \$40,742,641, an increase over that of the previous year of \$5,567,167. In a report by the Dominion superintendent of forestry in relation to the world's future timber supply, he has this to say of what seems to be an inexhaustible supply of virgin forest in the Dominion:

Taking a review also of the forestal conditions of the older European countries and of those of South America and the Orient, and the great home market now being created by the rapid settlement of the

prairie country, the only conclusion that can be drawn is that the future demands for all classes of wood material will be so great as to tax severely all the sources of supply. Notwithstanding the increased use of brick, iron, stone, and concrete in structural works, the consumption of timber goes on increasing faster than it ever did before. Such being the case, any country possessing an available supply will assuredly have an abundant market.

The question then for us to answer is, Has Canada such a supply? If the question had to be answered in the negative it would be as much deplored by those countries that are in constant need of a supply and which are holding out their hands to us for it as it would be by ourselves.

Though we have lost vast quantities of timber by fire, still Canada undoubtedly stands at the head of those countries from which a future supply may be expected. It is true that our virgin white pine can not last very many years longer, but we have other varieties of great value. In British Columbia we have the Douglas fir, the cedar, the western white pine, and a hemlock very much superior to our eastern hemlock, but above all we have the spruce, the most widely distributed of all our forest trees. If we visit the mills of the maritime provinces we find them cutting that timber for export to Europe, and so fast is its natural reproduction in the moist climate of the coast that the same territory can in the ordinary way of lumbering be recut about every twenty years. Starting west from the Atlantic in Nova Scotia, we find the white and black spruce in all the older provinces and in all the districts of our Northwest Territories, while in the interior of British Columbia another variety, the Englemann spruce, a very useful tree, is found in great abundance, and west of this and extending to the coast, the giant of this class is found in the Menzies or Sitka spruce, which almost rivals in size and utility the giant Douglas firs of the same district.

Not only is the range of the different varieties of the spruce bounded only by the Atlantic and Pacific on the east and west, but it also extends over more degrees of latitude than any other of our native trees, reaching practically across the whole country from its southern boundary up to the limit of tree growth, in some places extending beyond the Arctic circle. It must not be inferred that the whole of this vast area is covered with merchantable timber, but on the other hand there can be no question that this country possesses an immense quantity of spruce timber which probably no other country can equal. A very large portion of it is growing on land which, from its rough character and also from its severe climate, is unsuited for the growth of agricultural products, and should be kept permanently for the production of timber. In other words, it should be Canada's wood lot.

In addition to the utility of spruce for lumber, it is of all varieties the one best adapted for pulp, an article which is now being applied to such a variety of purposes that the demand for pulpwood is enormously increasing every year. There seems little question that this industry is only in its infancy, and that our northern forest regions, with the unlimited water power they possess, will in the not distant future be the home of important and lasting industries.

The eyes of the European nations are turned to Canada for their future supply of timber. Are their expectations to be realized or disappointed? This question can only be answered on certain condi-

tions. If we fail to realize that we possess vast wealth in our wooded wilderness and take no means, first, to preserve the virgin growth, and second, to frame our policy so that growth and reproduction may go on indefinitely, we will not only disappoint less favored countries in this respect, but will also prevent the realization of the hopes of our own people, who have a right to demand the preservation of a really great heritage.

We must not forget that we possess in those uninhabited wilds more than the merchantable timber now existing there. We too often overlook the potentialities of the forest, and forget that great life forces are constantly at work by which reproduction and growth are maintained, so that the sapling of to-day will be the timber tree of to-morrow, and it in turn will cast its seed on the soil for another crop in the still more distant future. Mr. J. R. Booth a year or two ago ventured the prediction that if correct forestry methods were adopted in the pine regions of Canada, our grandchildren would have a larger quantity of that variety of timber than we possess to-day. This opinion is probably correct.

Taking Canada as a whole, there is no doubt whatever that she takes first place among the timber-producing countries of the world, and it is to be hoped that this position in the future may not only be maintained, but relatively advanced.

A. G. SEYFERT, *Consul.*

STRATFORD, ONTARIO, *February 27, 1905.*

PAPER CURRENCY IN CHILE.

(*From United States Secretary of Legation Ames, Santiago, Chile.*)

I inclose herewith a translation of a bill recently passed by the Chilean Congress providing for the postponement of the conversion of the paper currency to January 1, 1910, and the emission of \$30,000,000 (pesos) in paper in addition to the \$50,000,000 already in circulation. I call special attention to the words "or the United States of America," inserted in the sixth article, as originally proposed, at the suggestion of Señor Agustin Edwards, a former minister of foreign affairs. The sum involved may tempt some American banking institution to present proposals.

EDWARD WINSLOW AMES, *Secretary of Legation.*

SANTIAGO, CHILE, *January 10, 1905.*

PAPER CURRENCY LAW (No. 1721) PASSED BY THE CHILEAN CONGRESS ON DECEMBER 29, 1904.

(*Translation.*)

ARTICLE 1. The date fixed by laws of July 31, 1898, and December 31, 1901, for the conversion of the paper currency shall be postponed to January 1, 1910, but if before this date the average international exchange shall have been during six months 17½ pence, the President

of the Republic shall decree that the conversion take effect within the six following months, provided there be the funds necessary therefor.

ART. 2. The emission of paper currency (fiat) authorized by law No. 1054 of July 31, 1898, shall be increased by 30,000,000 pesos.^a The President of the Republic shall issue 15,000,000 within thirty days following the promulgation of this law and the remaining 15,000,000 in successive monthly portions of 2,000,000 each, begining February 1, 1905.

ART. 3. Of the first 15,000,000 pesos, there shall be deposited 10,000,000 in the treasury as ordinary revenues of the nation. The 5,000,000 remaining, as well as the monthly issues provided for by the preceding article, shall be used to purchase, on public bids, bonds of the Mortgage Credit Bank, their price not to exceed par.

ART. 4. The mortgage bonds which are acquired in conformity with the preceding article shall be placed with those which, to the value of 6,998,500 pesos, are now deposited in the Government house, and all of them shall be retained there, retired from circulation, and preferentially applied to the payment of interest and amortization of the Government's internal debt. Any excess of the interest on the bonds over and above the amount demanded for the payment of such interest and amortization of the internal debt shall be paid over as ordinary revenue. The sums paid in for the amortization of bonds shall be applied to the purchase of others to be acquired in the manner prescribed by this law.

ART. 5. The assets hereinafter enumerated shall constitute a guaranty and conversion fund for the entire issue: (a) Twenty-two million nine hundred and seven thousand five hundred and thirteen pesos in gold, at 18 pence, actually deposited in the Government house; (b) 14,939,040 pesos gold, at 18 pence, the balance remaining in the national treasury from the proceeds of the sale of the war ships *Constitution* and *Libertad*; (c) The proceeds of the sale of nitrate lands and lands in the Territory of Magellan; and (d) lastly, 500,000 pesos gold, at 18 pence, which the administration of the treasury shall deliver monthly to the Government house, taking them from the customs revenues, beginning in January, 1905, and continuing until there shall have been made up, with the other assets enumerated in this article, the sum of 80,000,000 pesos, the sum total of the issue authorized by this law.

ART. 6. The sums in gold now in the conversion fund and such as shall go on accumulating shall be sent to Europe or the United States of North America as soon as available and deposited in banks of the first class, at an annual interest of not less than 3 per cent and for fixed terms, which shall not terminate prior to January 1, 1909. The interest produced by these deposits shall be converted annually into capital and added to the conversion fund. The superintendent of the Government house (mint) shall cause to be published monthly in the Official Daily a statement of the conversion fund.

ART. 7. In the first half of 1909, or before that if the President shall decree the conversion of the currency in conformity with this law, the President of the Republic shall order the funds returned to Chile for coinage.

ART. 8. The conversion funds shall be devoted exclusively to the

^a The Chilean peso = 36.5 cents United States currency.

payment of the paper currency and shall not be used for any other purpose except by virtue of a special law of the nation.

ART. 9. The expenses which this law involves are hereby authorized. The law shall take effect from its publication in the Official Daily.

AMERICAN DRIED FRUITS IN EUROPE.

(From United States Consul-General Chester, Budapest, Hungary.)

The official Hungarian pomological organ in its December number contains the following communication:

The alertness of the Germans is doing everything to place as many hindrances as possible on the German frontier to the admission of undesirable industrial or agricultural products. It is especially attending to American dried fruits, which are often found fault with, owing to their high content of sulphurous acid, due to their strong exposure to sulphur. Lately the Crefeld Food Inspection Station reported that of 47 shipments of dried fruit of American origin it had to reject 37 for superfluous sulphurization, because they exceeded the amount of sulphurous acid content licensed by the Prussian minister of agriculture. This is instructive for us (Hungarians), too, as American fruits are being sold here which make a fine showing, but are less healthful.

It is evident from the foregoing that there is a good market for American dried fruits in Hungary so long as the "Prussian system" is kept at a distance by the Hungarian domestic competitors.

FRANK DYER CHESTER, *Consul-General*.

BUDAPEST, HUNGARY, *December 23, 1904.*

United States Consul Brittain, of Kehl, Germany, under date of April 28, 1904, reported as follows in Daily Consular Reports, May 31, 1904, No. 1966, on this subject of "Sulphurization of American fruits:"

I beg to call attention to an article which appeared in the Journal d'Alsace, published in the city of Strassburg, under date of April 22, 1904. I have not thus far been able to ascertain what steps have been taken toward excluding California evaporated fruits, but as the article has appeared in other newspapers here I think it advisable to bring the matter to the attention of the California producers, in order that they may prove the falsity of such charges regarding the preparation of the fruit for the German markets. The following is a translation of the article in question:

"*Introduction into Germany of California dried fruits.*—The introduction into Germany of California dried fruits is to be forbidden. Prunes which are sent from California are frequently soaked in a bath of alum and glycerine and in a red coloring matter, which gives them

weight but hardens the skin. The peaches and apricots are treated twice to a preparation of sulphur, in order to preserve the beautiful appearance of the fruit, and by this process there is formed upon the surface of the fruit a residuum of sulphuric acid, which is very dangerous to the stomach."

AMERICAN FRUITS IN NEW SOUTH WALES.^a

(From United States Consul Baker, Sydney, New South Wales.)

California fruits—apples, pears, grapes, oranges, and lemons—are seen in the markets of Sydney throughout the year, but especially during the winter months, beginning with May. Apples and other fruits are also imported from Tasmania. The climate and soil of New South Wales and all northern Australia is suitable for semitropical fruits, and American exporters must expect competition from these sections.

American fruits are imported here, both green and preserved, and are generally in excellent condition. Consignments are made to dealers (wholesale), and are sent direct to the fruit markets, where they are offered for sale to retailers. Consignments are generally drawn against the bank, f. o. b. The method of packing California oranges, lemons, and grapes is commended by dealers. No improvement is suggested.

The terms of payment are according to agreement between the parties, either against documents at port of export or f. o. b. Sydney. The duty on canned fruits is 25 cents per dozen quart cans; on raisins and other fruits, 6 cents per pound; on peaches, green, 25 cents per hundredweight (112 pounds).

Pears, peaches, apricots, nectarines, quinces, plums, oranges, lemons, grapes, and all small fruits are grown in New South Wales with as little labor as in any other part of the world. There are, however, numerous insect enemies to the apple and peach.

ORLANDO H. BAKER, *Consul*.

SYDNEY, NEW SOUTH WALES, *January 20, 1905.*

BANKING IN AUSTRALIA.^b

(From United States Consul Baker, Sydney, New South Wales.)

The Australian bank failures of 1893 were in no sense due to inflation. There is not and never has been any inflation of banking currency in Australia, for the reason that bank notes have always been

^a This report is in answer to the circular sent out by the Department on February 26, 1904, general replies to which constitute Special Consular Reports, vol. 32, Foreign Markets for American Fruits.

^b Report prepared in accordance with a special request.

payable on demand, except during a short period of the crisis when the notes of some of the banks were made legal tender by special legislation. This did not result in any material increase of the note circulation, the crisis having been practically stopped by this action and by the current account depositors' act hereinafter mentioned.

The note circulation during a period of eight years, for which a calculation was made by me, did not vary to any appreciable extent. During this period the deposits in the banks increased to more than \$50,000,000, advances to more than \$80,000,000, and assets to more than \$90,000,000, and during the three years when the note circulation was lowest there was the greatest increase in the banking assets.

In answer to the question whether the system of "asset currency" meets the needs of the country, my reply is that it can hardly be said that there is a system in Australia answering to the designation "asset currency." At the time of the crisis in 1893 an act was passed in New South Wales which provided as a permanent enactment that notes payable on demand issued by any bank should be a first charge on all assets available for payment of debts. This has not, however, resulted in any increase of the currency.

Power was given by this act to the governor in council (that is, the executive government) to declare by proclamation that notes payable by any bank should be legal tender if it appeared that the assets of the bank exceeded its liabilities, and such proclamation was made affecting four of the leading banks which had not suspended payment but for a period of six months only.

By another act, entitled "The current account depositors' act," the treasurer was empowered to issue legal-tender treasury notes to a limited amount, and to apply them in payment to the depositors of one-half of their current accounts in the banks under reconstruction, the treasurer taking the place of the depositors as creditors of the banks. As the treasury was paid by the banks the amount of the advances the notes were canceled. I am under the impression that bank notes are also made a first charge in some of the other states of the confederacy.

A depositor has no security on current account in Australia, nor are deposits on current accounts a first charge, as are notes issued.

A characteristic of Australian banking is the enormous amount of deposits in proportion to population, the deposits in the Bank of Australia being a few years ago \$530,000,000, compared with somewhat more than \$3,795,000,000 in the United Kingdom, where the population was approximately ten times larger.

ORLANDO H. BAKER, *Consul*.

SYDNEY, NEW SOUTH WALES, *January 20, 1905.*

AMERICA'S TRADE RECORD.

(From United States Consul McNally, Liege, Belgium.)

Under the above caption, the London Daily Mail says that the returns for the exports and imports of Germany, France, and the United States during 1904 enable a comparison to be made between the progress of free-trade England and that of her protectionist rivals. The following shows the average of the exports (values reduced to United States currency) for the five-year periods 1880-1884 and 1900-1904:

Average exports from England, France, the United States, and Germany for five-year periods, 1880-1884 and 1900-1904.

Country.	1880-1884.	1900-1904.	Increase.
England.....	\$1,138,761,000	\$1,406,418,000	\$267,657,000
France.....	571,577,000	817,572,000	145,995,000
United States.....	802,972,000	1,416,151,000	613,179,000
Germany.....	744,724,000	1,158,277,000	413,553,000

It is maintained by free traders that if imports fall exports must also decline; yet, says the Mail, it is interesting to discover that the French imports have markedly decreased from an average of \$924,635,000 for 1880-1884 to one of \$890,596,000 for 1900-1904, and yet French exports have in this same period distinctly increased, as the table shows.

JAMES C. McNALLY, Consul.

LIEGE, BELGIUM, February 20, 1905.

MACHINE FOR TESTING LUBRICATING OILS.

(From United States Consul Mahin, Nottingham, England.)

A British trade journal states that the Elektricitäts-Aktien-Gesellschaft, of Frankfort, has recently introduced a convenient machine for testing the lubricating qualities of oils. The essential part is a short shaft working in a bearing and loaded appropriately. About half a pint of the oil under examination is poured onto the bearing, and the shaft is set revolving at a definite speed. The time that elapses before the shaft comes to rest is noted; the greater the time the better is the lubricating quality of the oil. After the test the bearing is cleaned by pouring over it a liquid in which the oil is soluble and then removing the liquid by a blast of air; this method of cleaning is found to be quite effective and is economical of time. The machine may be driven by an electric motor or other mechanical means or by hand, and there is an arrangement of resistance coils by which the bearing can be

heated up to any required temperature. Both the bearing pressure and the speed may be conveniently regulated.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *February 8, 1905.*

SUMMER SCHOOL OF THE ALLIANCE FRANÇAISE.

(*From United States Consul Goldschmidt, Nantes, France.*)

As some of our educational centers will undoubtedly be interested in the subject, I transmit a copy of a letter from the president of the "Alliance Française" concerning a course of instruction during the vacation period to be held in Paris in July and August. I also transmit three copies of the programmes of the course.

LOUIS GOLDSCHMIDT, *Consul*.

NANTES, FRANCE, *February 8, 1905.*

SIR: I have the honor to inform you that the vacation course started in 1894 by the Alliance Française will be given this year at Paris in July and August. All teachers and students desirous of perfecting themselves in the French language and literature are interested in being informed of the existence and character of these lectures, and I therefore send you a number of programmes which have been prepared for the next session this summer. The board of administration of the Alliance Française would be very grateful to you if you would give it a mark of your interest by requesting such students as are interested in French studies to examine our programmes carefully. These are gotten up especially for the use of foreigners, and have up to now been received with marked favor.

P. FOXCIN,

President of the Board of Administration.

PARIS, FRANCE, *January 28, 1905.*

LIBERIA COLLEGE.

(*From United States Minister Lyon, Monrovia, Liberia.*)

A few days ago the Liberia College held its annual commencement in one of the churches in Monrovia. The institution was founded more than forty years ago, and is partly supported at present by American philanthropists, and a few facts about it may be of general interest. The commencement was held in the presence of a large and distinguished audience, in which were the president, cabinet, members of the senate and house of representatives, and members of the diplomatic and consular corps. There were five graduates, and the exercises reflected much credit upon the work and importance of the institution.

Liberia College is the great national center for higher education in the Republic. It opened in 1862, and until 1890 was supported entirely by funds raised in the United States. Since 1890 Liberia has endeavored to supplement the aid from the United States by appropriations from the national treasury. The college is under the control of two boards of trustees, one in Liberia and one in the United States. Since its organization the college department has been closed several times. It was opened the last time in 1900. Dr. R. B. Richardson is the present president of the college, which is performing a great and valuable service for Liberia. He has graduated two classes, one last year and another this, and with the present prospects the college bids fair to justify all hopes of its founders.

ERNEST LYON, *Minister.*

MONROVIA, LIBERIA, *January 27, 1905.*

NEW YORK AND LONDON TRANSIT SYSTEMS.

(From United States Consul Halstead, Birmingham, England.)

Mr. J. Allen Baker, chairman of the highways committee of the London county council, having on behalf of that committee visited New York, has made a report on the transit systems of that city. This report has been published very fully in engineering newspapers here, and will undoubtedly be printed at great length by the electrical press in the United States, but the comparison he makes between New York and London electric street-car systems, showing, comparatively, construction and operating costs, revenue, speeds, and the pay and hours of employees, which the London Daily Mail has extracted from his report, should be of general interest. I have reduced the English to American money.

New York and London transit systems.

Item.	New York.	London.
Gross earnings per car mile.....	33 cents.....	24 cents.
Operating costs per car mile.....	15 cents.....	14 cents.
Cost per track mile for cleaning.....	\$486.65.....	\$652.11.
Cost of construction line per car mile of single track.....	\$97,330 to \$121,662.50.	\$72,024.20.
Cost of feeder cables per mile.....	\$15,572.80.....	\$7,299.75.
Cost of power stations per mile single track.....	\$28,225.70.....	\$28,469.02.
Average speed per hour.....	10 miles.....	8 miles.
Hours of motormen and conductors.....	10 hours labor in 12 consecutive hours	10 hours labor in 12½ consecutive hours average.
Pay of motormen per day.....	\$2.11 to \$2.50.....	\$1.15 to \$1.52.
Pay of conductors per day.....	\$2.01 to \$2.37.....	\$1.15 to \$1.52.
Pay of conduit cleaners per day.....	\$1.74.....	\$1.30.
Pay of car cleaners per week.....	\$10.56 to \$12.28.....	\$6.08 to \$6.68.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *February 15, 1905.*

PARCELS-POST RATES IN GERMANY.

(From United States Consul Liefeld, Freiburg, Germany.)

The post-office department in Germany acts as an express company and accepts packages from Freiburg for delivery at Hamburg or any other German town at the rate of 50 pfennigs (11.9 cents) per 5 kilograms (11 pounds). The rate for overweight to Hamburg is 30 pfennigs (7.14 cents) per kilogram (2.2046 pounds) extra; from places nearer to Hamburg, however, the excess rate is less, varying from 10 to 50 pfennigs (2.38 to 11.9 cents) per kilogram, according to distance.

The post-office rate from Freiburg to other countries is as follows, the limit of weight each time being 5 kilograms or 11 pounds.

Parcels-post rates from Freiburg, Germany, to foreign countries, per 11 pounds.

Countries.	Rates per 11 pounds.	
	Marks.	Cents.
Algiers (French colony).....	1.20	39
Austria-Hungary ^a.....	.50	12
Azores.....	1.80	43
Belgium.....	.80	19
Bulgaria.....	1.80	43
Danish Antilles.....	1.60	38
Denmark.....	.80	19
Egypt ^b	1.40	33
France.....	.80	19
Great Britain and Ireland.....	1.10 to 2.10	26 to 50
Greece.....	1.40 to 2.20	33 to 52
Italy.....	1.40	33
Luxemburg.....	.70	17
Madeira.....	1.80	43
Malta.....	2.00	48
Montenegro.....	1.60	38
Netherlands.....	.80	19
Norway.....	1.00 to 1.60	24 to 38
Portugal.....	1.80	43
Roumania.....	1.40	33
Russia.....	1.40	33
Servia.....	1.00 to 1.20	24 to 29
Spain (limit 3 kilos or 6.6 pounds).....	1.40	33
Sweden.....	1.60	38
Switzerland.....	.80	19
Tripoli.....	1.60 to 1.80	38 to 43
Tunis.....	1.80 to 2.00	43 to 48

^a Parcels post and letter postage rates for Austria-Hungary are the same as in Germany itself.

^b Parcels for Egypt via Switzerland and Italy 52 cents per 11 pounds.

The following are the charges for parcels to the United States: One kilogram (2.2046 pounds), 33 cents; 1 to 5 kilograms (2.2046 to 11 pounds), 31 to 88 cents, according to the circumstances of sending and delivery.

In all cases certain requirements for the foreign customs department must be followed, which for the United States are, besides the card of address, two declarations pertaining to cost and contents; and as regards size, packages for the United States must not be over 105 centimeters (41.24 inches) in length, and the circumference must not exceed 180 centimeters (70.87 inches).

From 1 to 20 kilograms (2.2 to 44 pounds) the rate is 1.10 marks (26 cents). For each additional 10 kilos (22.046 pounds) or fraction

thereof 55 pfennigs (13 cents), so that the rate for 100 kilos (220.46 pounds), is 5.50 marks (\$1.31).

The railroad express rates are for 20 kilos (44 pounds) or less 2.60 marks (62 cents), and for each 10 kilos (22.046 pounds) additional 1.28 marks (30 cents), so that the express rates for 100 kilograms (220.46 pounds) are 12.78 marks (\$3.04).

E. THEOPHILUS LIEFELD, *Consul*.

FREIBURG, GERMANY, *December 22, 1904.*

Accompanying the foregoing report of Consul Liefeld was a report on freight and express rates from Germany, showing rates charged for transmitting packages to almost all parts of the world, which is on file in the Bureau of Statistics, Department of Commerce and Labor, where it may be consulted by parties interested.

NEW EXPLOSIVE.

(From United States Consul-General Guenther, Frankfort, Germany.)

German papers state that acetylene gas, generated from calcium carbide by the simple addition of water, has not met expectations, which, however, were very great. On account of the ease with which a gas for lighting purposes could be obtained, it was believed that it would be used very extensively, but the boom in the acetylene industry did not last long. New uses for the gas have been looked for for some time. The latest invention is its use as an explosive.

By means of an air mixture explosive force is obtained which can compete with that of powder and dynamite. The explosion takes place in an air chamber and is caused by an electric spark. For this purpose carbide of calcium is reduced to small particles and put into a cartridge, consisting of a tin box. In this the carbide lies at the bottom and above it is a partition filled with water. Above this is a vacant space with the electric percussion device. On the side of the cartridge is an iron pin by means of which the partition between the carbide and the water can be perforated. After the drill hole has been completed the cartridge is placed into it and the hole is closed with a wooden stopper. Then the protruding iron pin is dealt a blow, by which the partition is perforated and the water is caused to come in contact with the carbide, whereby acetylene gas is generated. This mixes with the air of the drill hole. After five minutes the gas is ignited by an electric spark.

By this method of blasting the rock is said to be not thrown out but rent with innumerable cracks, so that it can be easily removed afterwards. About 1.7 ounces of carbide, which produce about 16 quarts of acetylene gas, are used for each cartridge.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 17, 1905.*

CARE OF THE AGED IN FRANCE.

(From United States Consul-General Gowdy, Paris, France.)

For more than half a century the French Government has been experimenting with schemes for establishing old-age pensions, the first act having been passed June 18, 1850. The plan then tried was not profitable, for the Government allowed investors 5 per cent, which was more than it could itself get, and the rate of interest had to be reduced. Shortly after the war with Germany (in 1873) the number of depositors had greatly increased, and in 1882 there was a deficit of \$8,400,000. To make up this the Government in 1884 made over to the Caisse des Rétraites a sum of \$56,874,400 in Government stock, the interest on which—with a small annual grant—amounting in all to \$2,515,000. would, it was calculated, meet past and future losses.

In 1895 the act at present in force was passed, but the question is still one that gives the minister of finance much anxiety, and it is not unlikely that some future changes will be made. At the present time deposits are received from any person, regardless of age, but the amount may not exceed 500 francs (\$96.50) in the course of a year. An account may be opened for a child of 3 years of age; a married woman may deposit money without her husband's consent. At any age between 50 and 65 (or earlier in case of permanent disability to work) the depositor may claim his annuity, which is calculated according to the amount of his deposit and interest and the probabilities of life, but the annuity may not exceed 1,200 francs (\$231.60). An annuity not exceeding 360 francs (\$69.60) is not liable to seizure for debt. In rural districts the taxgatherer is empowered to receive deposits, and in many factories a certain percentage is deducted from the wages and paid to the Caisse in the workman's name. A branch of the Caisse may be founded in any town or village, with the permission of the prefect of the department, and there are about 2,300 of such branches, with nearly 340,000 depositors.

There are several large institutions for the care of the indigent aged. Some of these are free, and at others a certain charge is made for board and lodging. The free ones are: Bicetre (for men only, including 640 lunatics and 200 idiot or epileptic children), 2,664 beds; Salpêtrière (for women), 3,891 beds; Incurables (men and women), 2,147 beds; Brevannes (incurables), 100 beds; Hospice Lenoir (over 70 years of age or incurable), 142 beds; Brezin (a private foundation for persons in iron trade only), 330 beds.

There is an institution known as the "Ménages," at Issy, near Paris, for widowers, widows, or married couples of whom both are over 65 years of age and who have been married at least fifteen years. Single persons pay 250 francs (\$48.25) a year for board and lodging; married couples 300 francs (\$57.90) each, including separate bedrooms. There

is accommodation for 1,461 inmates. At the La Rochefoucauld Hospital a charge is also made of 250 francs (\$48.25) for old people who are in tolerably good health, and 312 francs (\$60.22) for those who have lost the use of a limb.

There are many small institutions founded by private persons for old officials, at some of which the charge is as high as \$250 a year. Some religious orders still shelter a few aged persons, either gratuitously or at a small sum per annum.

The aged are generally held in respect, but not more so than in the United States.

JOHN K. GOWDY, *Consul-General*.

PARIS, FRANCE, *February 13, 1905.*

PRODUCTION OF SALT IN SPAIN IN 1904.

(Translated from the *Diario de Cadiz* and transmitted by United States Consul Bartleman, Seville, Spain.)

The salt industry of Spain is daily extending its sphere of operation, and besides supplying domestic wants, estimated at 300,000 tons yearly, exports considerable quantities, amounting in 1904 to 350,000 tons, an increase of 71,729 and 58,584 tons since 1902 and 1903, respectively. This production admits, however, of a still better development, if the public authorities help to keep the ground clear of all encumbrances, which must prove fatal to a commodity whose selling price is only \$1.35 per ton. The industry, placed upon a new basis, governed by modern systems and processes, is capable, no doubt, of having an era of prosperity never before experienced by it.

There are in Spain to-day 209 concessions of rock-salt works, extending over an area of 6,803 acres, of which number 54 are in operation and 155 are idle. The territory covered by the former is 2,385, by the latter 4,418 acres.

Spanish production of salt compared with that of the rest of the world ranks sixth in importance, being exceeded by that of the United States, England, Germany, France, and Austria-Hungary.

So far Spanish salt has been admitted into the markets of Uruguay, Newfoundland, Russia, Argentina, Sweden, Brazil, France, Cuba, Norway, Belgium, England, the Netherlands, and countries of minor importance, where it is regarded as unequaled for salting and tanning hides.

The salt works of Cadiz alone have contributed 63.32 per cent, or 221,657 tons, toward the total exports of 1904, other parts participating with 128,349 tons. The average production of the sea-salt pans is 300,000 tons, a quantity which could be much increased if modern alterations were made and certain tracts now lying idle were made to produce. Two thousand laborers live within the radius of this industrial region, and the wages distributed among them amount to \$236,250 yearly.

DROUGHT AND CROPS IN SPAIN.

(From United States Consul-General Ridgely, Barcelona, Spain.)

All during the year 1904 there was a shortage of rain in Spain, and this has continued up to the present time. As a consequence, grave fears are already entertained for the crops of 1905.

I recently addressed a communication to the secretary of the department of agriculture of the Province of Catalonia, asking for information as to the effects of the continued drought, and am just in receipt of his reply, of which the following is a translation:

The recent drought in Spain has had a disastrous effect on crops in Catalonia. All crops have suffered from the dry weather, which was so prolonged as to cause loss of flavor and damage to agricultural products, even to those raised on irrigated land, both herbs and trees. The result of this has been that worms have attacked the fruit and vegetables, and that the latter have had an insipid taste. The last two circumstances appear to be due to the excessive and prolonged heat of the summer of 1904. Potatoes and beans, both a primary necessity to the public, especially the poorer classes, who almost depend on them for food, were in consequence scarce and dear.

On the other hand, the drought favorably affected the vines, the juice of which proved excellent, owing to its perfect ripeness; still, in spite of the good quality of the wines produced, poor prices were realized.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *February 20, 1905.*

DREDGING GERMAN HARBORS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The Frankfurter Zeitung of February 9, 1905, states that all the German harbors of the North Sea are more or less subject to difficulty with soft mud, which fills the channels and basins in a comparatively short time, and requires constant dredging to keep them deep enough for large ships. Wilhelmshaven, the harbor of the German navy, suffers much from this calamity. The draft of modern vessels increases steadily, and therefore it has been very difficult to keep the channel at the necessary depth. In spite of continuous dredging this has not been possible with dredges of the kind heretofore in use. The firm of F. Schichau undertook to construct a dredge which would meet all requirements, and has gained a great technical success.

The dredge now delivered is a large steamer of very pleasing shape. The length is 262½ feet, the width 47½ feet, and it is therefore the largest dredge existing. Its performances are surprising. After a short trial of the machinery the vessel proceeded from Danzig to Wilhelmshaven and began its trial dredging in the latter part of December, 1904. The contract called for 3,600 cubic meters (3,924 cubic

yards) per hour in soft ground. The dredge easily made 5,000 cubic meters (5,450 cubic yards). The 3,600 cubic meters required for soft mud it performed even in heavy sandy soil of 1.96 specific gravity; 65 per cent of solid soil came out of the pressure pipes.

A speed of 8 knots was called for under the contract; the dredge, with full load and basins filled, made an average of 10 knots during a trial trip of several hours, although the coal consumption was minimal, being only at full speed 0.85 kilogram per indicated horsepower hour. If the cost of the dredge and wear and tear are taken into account, the expense of removing 1 cubic meter of mud is hardly 3 pfennigs ($\frac{3}{4}$ cent), while with former dredges the cost was about 12 cents. The dredge is considered a triumph of German shipbuilding.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 10, 1905.*

AMERICAN COAL-MINING MACHINERY IN BELGIUM.

(From United States Consul McNally, Liege, Belgium.)

Among the principal industries of this consular district is coal mining. The coal area covers about 95,544 acres. The last published statistics show that the product in 1903 was 6,478,110 tons and the number of employees about 36,000. The necessity of going deeper for the coal deposits, which are already below the 1,950-foot level, and the tendency toward economy have apparently created a demand for up-to-date and powerful machinery, and the field seems to be a good one for dealers in coal-mining appliances. Machinery for the distribution of air throughout the underground workings and for pumping seems to be greatly needed, as the water question is a growing one. The mechanical drills now in use give only partial satisfaction. The employment of explosives in coal mining is about to give way to the exclusive use of machinery. The system now in vogue for the sorting and washing of coal could be greatly improved and an available substitute would be welcomed.

North of Liege are located the extensive virgin coal fields of the Campines. The Government is at present engaged in surveying and experimenting there on a large scale. When uncovered, it is said that the coal area of this region will be one of the greatest in Europe. It is thought that concessions for the working of the mines will soon be granted, and that powerful boring machinery, different from that now in use, will be required to penetrate to the depth at which the coal deposits are located. The ground is said to be composed of shifting sands and aquiferous deposits, which will necessitate particular machinery. For the operation of the mines modern machinery will be employed in every department. The various uses to which electricity is put in the up-to-date operation of coal mines are seemingly unknown to the

coal operators in Belgium. New installations will be made and every modern device for the speedy and economical working of the coal fields will be employed.

JAMES C. McNALLY, *Consul*.

LIEGE, BELGIUM, *February 10, 1905.*

NEW IMPORT TARIFF OF JAPAN.

(From United States Minister Griscom, Tokyo, Japan.)

I transmit herewith a translation of the revised rates of increased import duties as adopted by the Diet in December last. The new schedules were promulgated in the Official Gazette of January 1, 1905, to go into effect six months thereafter (July 1, 1905). The ad valorem rates were, in many cases, such as that of kerosene, converted into specific duties by Imperial Ordinance No. 2 of the same date, translation of which is also inclosed.

The rate given in the accompanying schedules is in each case the rate of increased taxation, and is to be substituted for the rate adopted by the Diet in its special session held in March, 1904.

LLOYD C. GRISCOM, *Minister*.

TOKYO, JAPAN, *January 19, 1905.*

Former, increased, and total ad valorem import duties of Japan.^a

Articles.	Per cent ad valorem duties.		
	Increased duties.	Former duties.	Total duties.
Arms, such as cannon, muskets, pistols, side arms, projectiles, cartridges, and ammunition.....	5	25	30
Balances, measuring scales, and tapes.....	10	10	20
Barometers.....	5	10	15
Crucibles (all kinds).....	10	10	20
Cutlery, not otherwise provided for.....	5	20	25
Electric-light apparatus or instruments and parts thereof.....	5	10	15
Fire engines and parts thereof.....	5	10	15
Agricultural implements and mechanical tools and parts thereof.....	5	5	10
Musical instruments and accessories.....	10	15	25
Philosophical, chemical, surveying, surgical, and all other scientific instruments, not otherwise provided for.....	5	10	15
Photograph apparatus and parts thereof.....	15	15	30
Phonographs and parts thereof.....	10	25	35
Spectacles and parts thereof.....	10	10	20
Sporting guns and accessories.....	10	25	35
Telephones and parts thereof.....	5	10	15
Thermometers.....	10	10	20
Articles mentioned in group 2 of the table of import duties affixed to the schedule of customs duties, fresh eggs excepted.....	15	15-30	30-45
Fresh eggs.....	10	25	35
Articles mentioned in group 3 of the table of import duties affixed to the schedule of customs duties:			
(a) Articles manufactured of or containing silk; articles made of or containing gold, silver, or jewels; articles manufactured of platinum, gold, or silver.....	20	25-30	45-50
(b) All other kinds.....	15	20	35
Articles mentioned in group 4 of the table of import duties affixed to the schedule of customs duties (alcohol, volatile alcohol of all kinds, alcoholic medicines of all kinds (except tincture of opium), refined Borneo camphor, sahen, colodion for photographic use, yodoisaru, musk, artificial musk, turpentine, soda ash, caustic soda, excepted).....	5	10	15

^a Former duties and total duties were supplied in the Bureau of Statistics, Department of Commerce and Labor

Former, increased, and total ad valorem import duties of Japan—Continued.

Articles.	Per cent ad valorem duties.		
	Increased duties.	Former duties.	Total duties.
Refined Borneo camphor and sahen.....	10	10	20
Collodion for use of photograph and yodolisarur.....	10	10	20
Musk and artificial musk.....	10	15	25
Articles mentioned in group 5 of the table of import duties affixed to the schedule of customs duties (oxidized koparuto, gold fluid, silver fluid, platinum fluid, dry indigo, logwood, excepted).....	5	10	15
Articles mentioned in group 6 of the table of import duties affixed to the schedule customs duties (window glass, ordinary; plate glass, silvered or unsilvered; broken or powdered glass, excepted).....	10	20-25	30-35
Articles mentioned in group 7 of the table of import duties affixed to the schedule of customs duties (cotton seeds excepted).....	10	5	15
Cotton seeds.....	5	5	10
Articles mentioned in group 8 of the table of import duties affixed to the schedule of customs duties (bones and hair of animals, excluding wool, goat's hair, camel's hair, skins or hides, bull, ox, cow, and buffalo (raw, dried, salted, or pickled, and undressed) ivory or tusks, elephant tusks, waste, tortoise shells, waste, and shells excepted)....	5	5-25	10-30
Brass:			
Bar, rod, and plate sheet.....	5	10	15
Pipes and tubes.....	5	10	15
Screws.....	5	10	15
Copper:			
Bar, rod, and plate and sheet.....	5	10	15
Nails.....	5	10	15
Pipes and tubes.....	5	10	15
Wire.....	5	10	15
Copper coin and nickel coin.....	5	5	10
German silver: plate sheet, rod, and wire.....	5	10	15
Iron and mild steel; wire rope, galvanized or otherwise.....	5	10	15
Lead:			
Sheet.....	5	10	15
Pipes and tubes.....	5	10	15
Steel other than mild steel:			
Wire (hollow for the use of umbrella ribs).....	5	10	15
Wire rope, galvanized or otherwise.....	5	10	15
Yellow metal:			
Plate and sheet.....	5	10	15
Bar and rod.....	5	10	15
Nails.....	5	10	15
Pipes and tubes.....	5	10	15
Nails and screws, not otherwise provided for.....	5	10	15
Bag frames.....	10	15	25
Metal stoppers for bottles.....	5	15	20
Door locks, knobs, bolts, hinges, etc.....	10	15	25
Foils and powder of gold, silver, or other metals (bronze powder excepted).....	10	15	25
Gold and silverware, not otherwise provided for.....	10	85	45
Plated gold and silver ware, not otherwise provided for.....	10	25	35
Grates, stoves, and accessories.....	10	20	30
Cash boxes.....	10	20	30
Umbrella ribs and fittings.....	10	15	25
All metal goods, not otherwise provided for (materials for buildings and bridges, telegraph poles, and other similar materials excepted)....	10	20	30
Articles mentioned in group 10 of the table of import duties affixed to the schedule of custom duties (coconut oil, kerosene, linseed oil, oil or spirits of turpentine, stearin, excepted).....	5	10	15
Kerosene.....	30	20	60
Blank books (for photographs, postage stamps).....	10	15	25
Printed blank books and printed blank forms.....	10	15	25
Ink, copying or writing.....	5	15	20
Chinese paper of all kinds.....	5	15	20
Pencils:			
Gold or platinum.....	10	30	40
All other.....	5	15	20
Pen ribs:			
Gold.....	10	30	40
All other.....	5	15	20
Sealing wax.....	5	15	20
Straw paper.....	5	15	20
All other kinds of stationery.....	10	15	25
Sugar:			
Nos. 1 to 15, inclusive, Dutch standard in color.....	25	10	35
Molasses.....	20	10	30
Sirup.....	20	10	30
Cotton thread.....	10	15	25
Bookbinder's cloth.....	10	15	25
Woolen felt.....	15	15	30
Silk thread, not otherwise provided for.....	10	20	30
Chinese crepe.....	10	30	40

Former, increased, and total ad valorem import duties of Japan—Continued.

Articles.	Per cent ad valorem duties.		
	Increased duties.	Former duties.	Total duties.
Chinese pongee	10	30	40
Chinese satins	10	30	40
Chinese figured satins	10	30	40
Satins with silk and cotton mixed	10	25	35
Tissues, silk and cotton, embroidered	10	25	35
All other silk tissues, pure or mixed with other materials (silk, however, predominating in weight)	10	20	30
Flax or linen yarns	10	15	25
Felt carpets	15	20	35
Curtains:			
Of silk, wholly or in part	20	25	45
All other kinds	15	20	35
Elastic webbing for boots:			
Of silk in part	15	15	30
All other	10	20	30
Elastic braids and cards	10	15	25
Handkerchiefs:			
Of cotton, linen, linen and cotton (single)	15	15	30
Of silk or of lace	20	25	45
Mosquito nets of all kinds	15	20	35
Leather cloths for furniture, etc	15	15	30
Oilecloths and linoleum cloths for floors	15	15	30
Table cloth or covers:			
Of silk, wholly or in part	20	25	45
All other	15	20	35
Towels of all kinds, single or in piece	15	15	30
Twine, of cotton, hemp, flax	5	10	15
Yarns and threads of all kinds, not otherwise provided for	10	15	25
All other works of tissues:			
Of silk, wholly or in part	20	25	45
All other kinds	15	20	35
Various manufactured tobacco	100	100	200
Aloe wood	10	10	20
Amber:			
Unworked	10	10	20
Worked	10	20	30
Animals (oxen and cows, horses, asses, mules, sheep, goats, and domestic fowls excepted)	5	10	15
Asbestos, in sheet or board	5	10	15
Bamboo, unworked	5	5	10
Beltings of leather, caoutchouc or canvas, and hose of caoutchouc or canvas, for machinery	5	10	15
Billiard tables and accessories	10	30	40
Blasting gelatin and other similar explosive compounds, including detonators and fuses	10	15	25
Bricks and tiles for building purposes	5	5	10
Brushes and brooms of all kinds	10	20	30
Canes, sticks, and whips	10	20	30
Carriages, bicycles, tricycles, and parts thereof	10	25	35
Celluloid, worked	10	20	30
Chalk and whiting	5	5	10
Charcoal, wood and animal	5	5	10
Clay of all kinds	5	5	10
Fuel coal	5	15	20
Corals, worked or otherwise	10	30	40
Cordage and ropes of flax, hemp, jute, for rigging or otherwise	5	10	15
Glass-cutting instruments	5	10	15
Emery sands	5	5	10
Emery cloths and sandpaper	5	5	10
Emery wheels and grindstones of all kinds	5	5	10
Fireworks of all kinds	10	30	40
Flowers and blossoms, artificial	10	25	35
Frames for pictures, and molding	10	20	30
Funori (<i>gleopertis intricata</i>)	5	5	10
Furniture, new and old, not otherwise provided for	10	20	30
Games, all articles of, used in playing tennis, cricket, chess, etc., not otherwise provided for	10	25	35
Glue, common	5	5	10
Gun cotton	10	15	25
Gunpowder of all kinds	10	15	25
Gypsum	5	5	10
Ivory, manufactures of, not otherwise provided for	15	20	35
Jewelry, containing precious stones or pearls, or otherwise	10	35	45
Labels for bottles, tins, etc	5	15	20
Lamps and lanterns, and parts thereof	10	20	30
Leather, manufacturers of, not otherwise provided for	10	20	30
Malt	5	5	10
Matches of all kinds	10	20	30
Matting, China, in rolls of 40 yards	5	20	25

Former, increased, and total ad valorem import duties of Japan—Continued.

Articles.	Per cent ad valorem duties.		
	Increased duties.	Former duties.	Total duties.
Matting, cocoa	5	20	25
Mats and all other matting	5	20	25
Paintings, in oil or water color, lithographs, chromolithographs, photographs, calligraphical albums, and all other paintings, pictures, and calligraphy, not otherwise provided for	10	25	35
Pitch, wood tar, coal tar	5	5	10
Plaster of Paris	5	5	10
Playing cards of all kinds	10	35	45
Plumbago or black leads	5	5	10
Pottery, including porcelain and earthenware, not otherwise provided for	10	20	30
Precious stones and pearls	10	35	45
Precious stones and pearls, imitation of	10	30	40
Putty	5	5	10
Rattan, split or otherwise	5	5	10
Saddles, bridles, and harness	10	25	35
Sandalwood, white	10	10	20
Sandalwood, red	5	5	10
Shoeblackening of all kinds	5	20	25
Smokers' articles (articles for use in smoking opium are excluded)	10	30	40
Soapstone, in lump or powdered	5	5	10
Sparterie, for making hats	5	10	15
Sponges	5	5	10
Stones and slates, not otherwise provided for:			
Rough or unworked, for building purposes, etc.	5	5	10
Worked, for ornamental work or furniture, etc.	10	20	30
Statues and other, sculptured or engraved	10	25	35
Submarine telegraphic cables and underground telegraphic lines or cables	10	10	20
Toilet or dressing cases	10	25	35
Tortoise shell, manufactures of	10	25	35
Toys of all kinds	10	25	35
Trunks, portmanteaus, and traveling bags	10	20	30
Umbrellas, parasols, and sunshades:			
Of silk, wholly or in part	15	20	35
All other kinds	10	20	30
Umbrella sticks and handles, excepting those made of gold or silver	5	20	25
Wares of sandal orebony wood	10	25	35
All articles, raw or unmanufactured, not herein enumerated (except materials and leather lining for making hats, steel for making watch springs and umbrella ribs)	5	10	15
All articles, manufactured wholly or in part, not herein enumerated	10	20	30
Cocoons (new duty)			10
Rice and unhulled rice (new duty)			15

New specific import duties of Japan.^a

Articles. ^b	Unit.	Duties.	
		Japanese money.	United States currency.
Biscuits:	<i>Kin.^c</i>	<i>Yen.</i>	<i>Dollars.</i>
Sea biscuits	1	0.041	0.0204
Fancy biscuits	1	.057	.0284
Butter	1	.111	.0563
Cheese	1	.067	.0314
Coffee in the bean	1	.040	.0199
Fresh eggs	100	1.569	.7814
Flour	100	.740	.3635
Ham and bacon	1	.071	.0353
Fresh meat (mutton)	100	3.437	1.7116

^a Levied by imperial ordinance No. 2, which reads as follows: "The increased rate of import duties to be levied upon articles in accordance with article 2 of the special tax law and the duties to be levied on articles unenumerated in article 3 (cocoons and rice, hulled and unhulled) of the same law shall be converted into specific duties at the following rates in accordance with article 3 of the customs duties law."

^b The additional duties on alcohol and alcoholic products imposed by the new tariff are as follows: Alcohol, volatile alcohol, and alcoholic medicines (except tincture of opium), 6 sen per liter (2.99 cents per 1.0567 quarts); all other beers, wines, and liquors, 5 sen (2.49 cents) per liter. The old duties were: On alcohol and tinctures (opium tinctures excepted), 45 sen (22½ cents) per liter; on fermented liquors (excluding wines, vermouth, etc.), 27½ sen (13½ cents) per liter.

^c The kin = 1½ pounds; 100 kin = 133½ pounds.

New specific import duties of Japan—Continued.

Articles.	Unit.	Duties.	
		Japanese money.	United States currency.
Salt, sea and rock:	Kin.	Yen.	Dollars.
Crude	100	0.115	0.0517
Refined	100	1.632	.87.7
Salt fish	100	.715	.3561
Salt meat (beef or pork in bagel)	100	3.127	1.5572
Sekkiasai (Gelidium corneum)	100	.803	.3894
Butter, artificial	1	.059	0.94
Carbolic acid	1	.015	.0675
Salicylic acid	1	0.0	.0149
Tartaric acid	1	.031	.0154
Alum	100	.116	.0578
Antifebrin	1	.023	.0114
Antipyrin	1	.180	.0896
Biyakujutsu (Radix atractylis ovata or alba)	100	.551	.2744
Subnitrate of bismuth	1	.158	.0782
Borax (biborate of soda)	100	.441	.2199
Camphor, blumea, or ngai	1	.721	.3486
Cinnamon bark	100	.471	.2331
Oil of cinnamon	1	.074	.0368
Cataria, leaf of	100	.416	.2072
Cinchona bark	100	1.697	.8451
Red sulphide of mercury	1	.052	.0259
Cloves	100	1.014	.5048
Hydrochlorate of cocaine	1	7.599	3.7843
Cutch and gambier	100	.654	.3257
Gentian root	100	.633	.3132
Glycerin	1	.017	.0084
Gum arabic	100	.761	.3799
Benzoin	100	.385	.1917
Frankincense	100	.378	.1882
Hops	1	.052	.0259
Iodoform	1	.206	.1026
Ipecacuanha	100	21.659	10.7867
Jalap	100	1.920	.9562
Licorice root	100	.518	.2579
Mawo (Epedora vulgaris)	100	.268	.1334
Morphine, hydrochlorate or sulphate of	1	2.009	1.0004
Musk	1	29.243	14.5630
Artificial musk	1	4.3.8	2.1454
Nard or spikenard	100	.861	.4288
Bromide of potassium	1	.051	.0254
Iodide of potassium	1	.134	.0667
Putehuk	100	.804	.4004
Quinine, hydrochlorate or sulphate of	1	.522	.2569
Rhubarb, powdered or otherwise	100	.726	.3615
Saffron	1	.865	.4300
Saltpeter (nitrate of potash)	100	.492	.2450
Santonine	1	.648	.3227
Sarsaparilla	100	.952	.4741
Semen cyna	100	1.625	.8092
Cotton seeds	100	.067	.0337
Hides or skins of deer (raw, dried, salted, or pickled, and undressed)	100	1.904	.9482
Hides or skins of Samba (Cervus elephas) (raw, dried, salted, or pickled, and undressed)	100	.951	.4736
Animals' hoofs	100	.211	.1061
Horns of cattle and buffalo	100	.536	.2669
Horns of deer	100	.903	.4497
Ivory or tusk of walrus or sea horse	1	.059	.0294
Leather, sole	100	3.279	1.6329
Leather, sheep	100	5.654	2.8156
Tanned hides, known as "Indian blood leather"	100	1.854	.9223
Brass:			
Plate and sheet	100	2.173	1.0822
Pipes and tubes	100	2.106	1.0487
Copper:			
Bar and rod	100	2.029	1.0104
Plate and sheet	100	2.096	1.0436
Nails	100	2.547	1.2684
Pipes and tubes	100	2.500	1.2450
German silver: Plate, sheet, rod, and wire	100	3.513	1.7454
Iron and mild steel:			
Galvanized wire rope	100	.744	.3715
Plain wire rope	100	1.020	.5079
Lead:			
Plate and sheet	100	.415	.2067
Pipes and tubes	100	.469	.2336
Steel other than mild steel:			
Wire, paragon (for umbrella ribs)	100	1.081	.5154
Wire rope, galvanized or otherwise	100	1.090	.5428

New specific import duties of Japan—Continued.

Articles.	Unit.	Duties.	
		Japanese money.	United States currency.
Yellow metal and Muntz metal:	<i>K'ln.</i>	<i>Yen.</i>	<i>Dollars.</i>
Plates and sheet	100	1,710	0.8516
Bar and rod	100	1,712	.8526
Tinfoils	100	7,384	3.677
Candles	100	1,202	.5986
Bean oil	100	.560	.2788
Castor oil, in tin, cask, or jar	100	.568	.2778
Groundnut, or peanut, oil	100	.659	.3232
Olive oil, in tin, cask	100	1,556	.7749
Sugar (up to No. 15, inclusive, Dutch standard in color)	100	1,256	.6255
Molasses	100	.244	.1205
Shellac	1	.037	.0184
Bicarbonate of soda	100	.156	.0777
Crystals of soda or washing soda	100	.207	.1031
Salicylate of soda	1	.039	.0194
Sojutsu (Radix ataractyles lancea)	100	.253	.1250
Vaseline	100	.745	.3700
Wogon (Radix scutellaria lanceolaria)	100	.362	.1803
Boracic acid	100	.744	.3705
Acetic acid	1	.010	.0050
Tannin	100	5,822	2.8993
Carbonate of ammonia	100	.969	.4825
Carbonate of creosote	1	.136	.0677
Bichromate of potassium	100	.872	.4342
Blue, prepared from minerals, dry or liquid	100	3,178	1.5826
Emerald green	1	.018	.0090
Nutgalls and galls	100	1,398	.6962
Gamboge	100	4,485	2.2335
Liquid indigo	100	2,914	1.4512
Lead pigments, of all colors	100	.604	.3008
Extract of logwood	100	1,055	.5255
Mangrove bark	100	.052	.0259
Paint in oil	100	.694	.3456
Safflower	100	.926	.4611
Sapan wood	100	.093	.0458
Turmeric	100	.243	.1200
Ultramarine	100	.900	.4432
Varnish	1	.021	.0104
Chinese varnish	100	2,117	1.0543
Cinnabar	1	.074	.0368
Wansho	100	3,473	1.7295
White zinc powder	100	.689	.3431
Fustic extract	1	.010	.0050
Barley	100	.298	.1433
Soja beans	100	.289	.1439
Sesame	100	.523	.2604
Wheat	100	.377	.1877
Flax or linen yarns, plain or dyed	1	.157	.0782
Aloe wood	100	18,313	9.1198
Asbestos, in sheet or board	100	.550	.2749
Chalk and whiting	100	.280	.1394
Cordage and ropes of flax, hemp, jute (for rigging or otherwise)	100	1,388	.6912
Funori (gleopertis intricata)	100	.258	.1284
Glue (common)	100	.837	.4168
Gypsum	100	.053	.0264
Malt	100	.510	.2540
Pitch	100	.294	.1464
Wood tar	100	.359	.1787
Plaster of Paris	100	.122	.0607
Graphite	100	.650	.3237
Putty	100	.252	.1255
Rattan, split or otherwise	100	.532	.2649
Sandalwood (white)	100	1,221	.6080
Soapstone (in lump or powdered)	100	.119	.0592
Sandalwood (red)	100	.157	.0786
Rice and unhulled rice	100	.641	.3190
Bookbinder's cloth	per square yard	.017	.0084
Woolen felt	do.	.080	.0388
Chinese crepe	do.	.169	.0846
Chinese pongee	do.	.035	.0174
Chinese satins	do.	.222	.1105
Chinese figured satins	do.	.145	.0722
Silk-faced cotton satins	do.	.090	.0448
Felt carpets	do.	.050	.0249
Matting, cocoa	do.	.020	.0099
Elastic webbing for boots:			
Of silk in part	do.	.589	.2933
All other kinds	do.	.288	.1434
Leather cloths (furniture)	do.	.050	.0249

New specific import duties of Japan—Continued.

Articles.	Unit.	Duties.	
		Japanese money.	United States currency.
	<i>Yen.</i>	<i>Yen.</i>	<i>Dollars.</i>
Oilecloths and linoleum cloths (floor).....per square yard.....		0.101	0.030
Handkerchiefs:			
Of cotton (single).....per dozen.....		.066	.022
Of linen (single).....do.....		.291	.149
Of linen and cotton (single).....do.....		.250	.124
Kerosene.....per gallon.....		.068	.028
Matting, China, in rolls of 40 yards.....per roll.....		.336	.167
Charcoal, wood and animal.....per ton.....		1.146	.577
Milk, condensed, per dozen 1-pound tins, and proportionately for tins of other weight.....		.344	.169

CHINESE BANKS AND THE NEW YEAR'S CRISIS.*(From United States Consul Anderson, Hangchau, China.)*

Apparently the Chinese banks of Hangchau have survived the crisis of the Chinese New Year and have commenced the year with prospects of success. All the banking business of Hangchau is in native banks, none of the foreign banks of China having a branch here at the present time.

Chinese New Year generally brings a failure or two in every city of consequence in the Empire. This year two Hangchau banks were reported in extremis, as a result of the failure of two native banks in Shanghai, the Shanghai concerns being in trouble by reason of the failure of Canton banks. The general understanding is, however, that they realized upon some of their securities in time to meet all the obligations which faced them at the close of the year. To appreciate the position of the Chinese banks at New Year it is necessary to appreciate the position New Year holds in the business as well as the social economy of the Chinese people. The Chinese New Year is the one great holiday of the Empire's people. All business ceases for several days each year to celebrate it. This year the celebration proper will cover four days, February 3, 4, 5, and 6, and during that period there will be no mails into the interior from the coast, all steamship and mail connections between Hangchau and Shanghai will cease, daily newspapers will not be delivered, if they are published at all, and everything will be given over to celebration. The official celebration will last for two weeks and the offices of the provincial governments are closed during that period or longer. But more than this, in a business way, it is a rule of Chinese business and society that all debts shall be paid at the Chinese New Year. Possibly they will have to be paid through the contraction of new debts, but paid in some form they must be. The attempt is, of course, to pay them in money. The drain upon all banks is something enormous. It is very much as it would be in the United States if all debts were made payable at the

same time, and banks should refuse credit until they knew what the outcome of the situation was to be. The exchange between Hangchau and Shanghai ordinarily is about 40 cents on \$100. For ten days previous to the Chinese New Year it has been \$1 on \$100, the promise being that it will return to the old rate after the New Year is past. Interest rates demanded of the patrons of banks for loans over New Year will run as high as 20 per cent a month. As a matter of fact, loans among natives at from 4 to 6 per cent a month are common at all times. There is not enough money in China to properly transact the business of the Empire, and what money there is does not go as far as it ought to go because of the inadequate means of communication and the extortionate rates of exchange.

Banking business in China is hazardous at best, and when the pressure of a custom like that surrounding the New Year comes, it takes skillful management to keep a concern going and at the same time make money. The business of China generally is subjected at all times to drains and tolls, to discounts and exchange charges on the part of banks, which would not be tolerated in other countries, and this trouble, as well as the financial distress which surrounds the Chinese New Year, will not be done away with until the Empire has a monetary system which will make ruinous discounts between varieties of money impossible and which will allow the augmentation of the actual metallic monetary volume in the nation with paper currency of a sort now impossible. One of the chief anxieties of business people in some of the larger cities of China at the close of the year is to weed out of their collections notes of native banks which are expected to fail.

The general banking and financial situation in Hangchau is unusually sound, as matters go in Chinese cities generally.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *February 3, 1905.*

HINDRANCES TO AMERICAN TRADE IN SOUTH AMERICA.

(From United States Consul Peterson, Puerto Cabello, Venezuela.)

In view of numerous letters of inquiry from American merchants and manufacturers looking toward the extension of their trade with Venezuela, I have to report the following obstacles which should be taken into consideration by those business houses desirous of building up trade relations not only in Venezuela, but in other countries of South America similarly situated. These obstacles are of long standing, and have been stated over and over again by representatives of American interests in various parts of the South American continent,

but their continued existence makes it necessary to state them anew and to emphasize their importance as hindrances to the efforts put forth by the American houses seeking this trade.

The first obstacle to the extension of American trade is the practice of some houses in allowing only thirty days for the payment of bills. On the other hand, European houses commonly allow six months and sometimes a year's credit. Such long credit is necessary on account of the time required to transport goods: first, to the coast towns; then, in many cases, by burros to the interior, and then to await their sale. If only thirty days' credit is allowed, it is figured that the shipment from New York to a coast port in Venezuela would consume twelve days, detention in the custom-house four days, transportation to the interior five days, and sending the remittance to seller the remainder of the time, making the transaction practically cash on delivery.

The second drawback in dealing with American houses is stated to be their disinclination to deviate from their established system in order to meet the requirements of the South American market in the way of furnishing suitable patterns and assortments, and packing goods in convenient shape for transportation to the interior. A buyer for a local house assured me that it had been his experience while purchasing goods in New York to have his requests for an assortment of patterns in print cloths refused, on the ground that it was against the custom of the house in question to sell except in case lots. Although the purchaser offered to pay the extra expenses involved he was only able to get the goods he had bought repacked in smaller lots suitable for packing on burros through the work of the commission agent, who did not want to lose the sale. Such treatment has imbued many South American buyers with the sentiment that American manufacturers, with few exceptions, are indifferent to South American trade, and naturally these buyers go to Europe to purchase their goods, where their requirements in patterns and packing are appreciated and given attention.

This same buyer, whose wishes were so utterly ignored in New York, stated that while visiting an English factory he inquired if the picture on the wrappings of certain goods could not be changed, it being one that would not appeal to South American tastes. The answer was certainly, with the offer to replace it to suit. This was related as an illustration of the difference between American and European manufacturers, showing the readiness of the latter to adopt any suggestion that will help make a market for their goods.

Another point to be emphasized is the futility of seeking to make a market for goods of any kind in this part of South America by circulars and letters in English, or by commercial travelers who speak only English. The literature and correspondence introducing the

articles should be in Spanish, backed by competent salesmen familiar with the language and able to impress the South American merchants favorably. Behind these there must be a disposition to study the needs and tastes of the people and endeavor to meet them, not seek to force upon the customer something that he is not accustomed to, however well it may be adapted to home markets.

The above points cover the principal objections raised by local buyers to increasing their dealings with American houses. Whether the requirements are too onerous and involve greater expense and trouble than the results would justify, is for those merchants seeking this trade to decide. At all events, the failure to observe them will account in some degree for the fact that the United States occupies but second or third place in the quantity of imports into this district, despite its advantages of proximity and direct communication.

JEROME B. PETERSON, *Consul*.

PUERTO CABELLO, VENEZUELA, *February 22, 1905.*

CULTIVATION OF TAPIOCA IN JAVA.

(*From United States Consul Bairden, Batavia, Java.*)

Tapioca can be cultivated from sea level to altitudes of more than 3,000 feet and can be planted at any season, but that planted near the close of the rainy season, the latter part of March, thrives best, as it requires moisture when first planted. It takes between seven and eight months to yield, so that there is no second crop in one year, as with rice. The crop is poor where there is shade, and the seed is planted on open land.

Although the best crops are had when the plant is grown in loose soil, having sufficient humus and sand, it does very well when planted in poor soil, provided there is no shade. When planted in dark soil it grows well, often forming fine large stalks, but at the cost of the roots. If planted in clay land tapioca does very poorly.

When the land is well plowed broken cuttings of about 1 foot long are planted about 4 feet apart. These cuttings, or slips, are taken from the middle of a plant which is moderately old, always choosing the straightest plants; and are cut flat at the top and pointed at the bottom. The plant begins to sprout about five days after being planted, and no weeding is done until the plants have grown at least a foot and leaves are beginning to form. When they are two or three months old weeding is done for the second time and earth is put around the plants. Further weeding is not necessary, as after three months the shade from the leaves keeps the weeds from growing.

Most planters leave three branches on the stem, removing the other shoots in order to keep the plant from growing too high and forming

a large root stem. If allowed to grow naturally it attains a height of 10 feet or more; in cultivation it is permitted to reach a height of only about 6 feet. In low lands tapioca plants mature at seven and eight months, but in high lands they generally take nine months. The native planters often allow the plant to stand until a full year old. The root then becomes quite soft, but is not really harmed for the manufacture of flour. It is said, however, that a smaller amount of flour is obtained from roots over nine months old.

One great advantage of tapioca over other plants is that it is not subject to any disease and requires but little care while growing. Much damage, however, is done to the plant by wild pigs.

The harvesting of the tapioca plant is very simple. The plant is cut off near the ground and the root is dug up, peeled, and washed in running water, then rasped. The pulp is worked in a tub of water until, when it is pressed, clear water runs out. It is then pressed through a cloth stretched over a barrel and the fluid allowed to settle for twenty-four hours, after which it begins to ferment. On the third day the water is bailed out, leaving the flour at the bottom, which is then taken out and dried in the sun for three days, being crumbled by hand to facilitate the drying. Some of the natives sell the wet flour to the manufactories, where it is again washed and dried in the sun or upon hot plates.

At the manufactories, most of which belong to Chinese, the process is carried on by machinery, run chiefly by water power. The principal part, the rasp, is a cylinder 30 to 40 centimeters (11.8 to 15.7 inches) long and 10 to 15 centimeters (3.9 to 5.9 inches) in diameter, covered with short pieces of wire. The pulp falls from the rasp into a receptacle, by the aid of a little water which is allowed to run on the rasp. The pulp then runs into the sieve, an octagonal or hexagonal cylinder 4 or 5 meters (4.36 or 5.45 yards) long, covered with brass-wire fine gauze, and lying at a slope. This is turned slowly and water is kept running on it. The pulp comes out of the lower end while the flour goes through the gauze with the water and is taken to the settler. It is then stirred and settled for a second time, then dried and crumbled by hand in the sun. Afterwards it goes to the drying ovens, where great care must be taken not to overheat the plates and burn the flour.

After the flour is well dried it is divided into two sorts, according to color and grain. The first quality consists of a fine, white flour, the second quality being slightly colored and of a rougher grain. There is also an intermediate quality made by the natives. It is calculated that 6 piculs (816 pounds) of the root produce 1 picul (136 pounds) of flour.

Prices realized in the past year were as follows, per 136 pounds: First quality, \$2.01; second quality, \$1.81; third quality, 90 cents.

The finest quality of flour is exported to the United States and Great Britain. During 1903 some \$80,000 worth was exported to the United States. The total amount exported that year was 25,053,104 pounds. The tapioca root is also used by the natives and Chinese as food, and sells at about 1 cent per plant on the field.

B. S. RAIRDEN, *Consul*.

BATAVIA, JAVA, *January 23, 1905.*

GOLD FROM SEA WATER.

(*From United States Consul Mahin, Nottingham, England.*)

It has long been asserted that gold exists in a state of solution in the sea, and that in the many attempts to extract it some has been collected and precipitated, but it is admitted that failure has attended every effort at extraction on a commercial basis. The announcement is now made, however, that a new process has received the sanction of no less a person than Sir William Ramsay, professor of chemistry in University College, London, officer of the French Legion of Honor, corresponding member of the Institute of France, member of scientific and philosophical societies in nearly every civilized country, and the author of numerous scientific papers and treatises. The new process is patented, but no further description of it is given than that it "bears a certain resemblance to the treatment adopted in the mines of the Witwatersrand" (South Africa).

It is said that a syndicate, whose title and address are not given, has been quietly picking up favorable sites on the English and Irish coasts, and has now acquired rights over some 50 miles of foreshore. The securing of extensive foreshore rights is necessary because the sea water must be absolutely pure to obtain the best results from the new process. Therefore, factories and pumping stations must be established well out of reach of passing steamers, the bilge water from which would contaminate the surrounding sea and derange the process of extraction.

Some forty years ago active experiments began which showed that gold in minute quantities was dissolved in many rivers and streams, and later on a measurement of gold in sea water placed the amount at about a grain in each ton of the water. A grain of gold being worth about 4 cents, and the tons of water in the ocean being placed at 60,000,000,000,000, it staggers the mind to attempt to compute in dollars the prodigious total value of the gold in the ocean. Should the new process do all that its friends sanguinely claim for it, gold would almost become a drug on the market; but it is considerably remarked that "it would obviously not serve the interests of the syndicate to

secure gold in greater quantities than the market could absorb. Moreover, the firm of financiers whom we believe to be mainly concerned in the developments is far too deeply involved in high finance to engage in any operations which would have an unsettling effect upon the currency."

Many newspapers express skepticism and distrust of the new scheme and doubt if Sir William Ramsay's "indorsement" really amounts to more than testimony to the efficiency of certain apparatus that may have been submitted to him. So far, however, Sir William does not seem to have directly spoken on the subject; but it must also be said that no one for him has directly denied that he indorses the new process.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *February 10, 1905.*

OPPORTUNITIES FOR AMERICAN CONTRACTORS.

(From United States Consul-General Guenther, Frankfurt, Germany.)

AUTOS, BRIDGES, CANALS, AND PUMPS.

India.—The government of the Punjab has granted \$26,065,000 for constructing three lines of canals for irrigating purposes.

Netherlands.—The Arnhemsche Rijtuig Maatschappij of Arnhem intends organizing an automobile transportation service between Arnhem and Velp.

The municipality of Amsterdam projects the construction of an iron bridge between the Hooyte and Laagte Kadijk.

Portugal.—The Direcção Geral das Obras Publicas in Lisbon will receive proposals for supplying the iron work for a bridge 147½ meters (484.16 feet) in length across the Mondega, near Penacova.

South Africa.—English papers state that very soon a strong demand for pumping plants will develop in the Orange River Colony. The Government is very liberal in furnishing to the settlers at low cost drills for boring. As water frequently impedes operations, pumping must be resorted to. Windmills are the most popular method for furnishing power for pumping, and consequently will also be in much demand.

HARBORS AND FACTORIES.

Italy.—The Italian Parliament has appropriated \$5,000,000 for harbor works in Naples, and, by special act, relieves from all taxes for the term of ten years any newly established industrial enterprise. The State also advances the necessary funds for furnishing the city with hydraulic power from the water falls of Cape Volturmo, estimated at 16,000 horsepower. Imported machinery or material for the construction of new factories at Naples are to enter "free of duty."

RAILWAYS, TRAMWAYS, AND SUPPLIES.

Denmark.—The chambers of commerce of the province of Jutland have petitioned the Danish ministry of public works to lay a second line of track on two railroad lines and to bridge the "Little Belt." The estimated cost of these works is 75,000,000 crowns (\$20,100,000).

India.—The great Indian Peninsular Railway is open to receive proposals for supplies of railroad material. Apply to their head office, 48 Copthall avenue, London, England.

Italy.—The Societa Unione Italiano Genovese dei Tramways Elettrici, Genoa, has received a concession for building an electric tramway line in that city.

Spain.—The tramways of Barcelona are to be changed to electric traction. Apply to Compania Central de Ferrocarriles y Tranvias de España, Barcelona.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 21, 1905.*

PENSIONING JUDGES IN ENGLAND.

(From United States Consul Halstead, Birmingham, England.)

It is considered an essential condition of the English court system that the judges shall be absolutely independent financially, that their salaries shall be so large and provision for their future shall upon their retirement be so ample they need at no time of their service have any monetary anxiety.

The financial arrangements are explained quite fully in the following paragraphs from yesterday's issue of the Westminster Gazette, an evening paper published in London:

By the granting of an annuity of £3,500 (\$17,032.75) a year to Sir Francis Jeune there are now no fewer than eight ex-judges in receipt of total pensions amounting to £28,000 (\$121,662.50) a year. They are Sir Edward Fry, Lord Field, Sir Arthur Charles, Lord Brampton, Sir Ford North, Sir John C. Day, Sir Gainsford Bruce, and Sir Francis Jeune. Three other judges of the high court are also entitled to pensions as soon as they choose to take them. They are justices Kekewich, Wills, and Grantham, and by the end of this month Mr. Justice Lawrance will become another.

A judge who continues on the bench after completing fifteen years' service really does his work for £1,500 (\$7,299.75) a year, the difference between his salary and pension. In the court of appeal Lord Justice Mathew qualified for his pension nearly nine years ago, the master of the rolls becomes entitled to a pension of £4,200 (\$21,899.25) a year, next year, while in the House of Lords Lord Macnaghten has been entitled to a pension for three years. The lord chancellor is entitled to a pension of £5,000 (\$24,332.50) a year for life, however short his tenure of the chancellorship.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *February 7, 1905.*

EMIGRATION TO THE UNITED STATES VIA BREMEN IN 1904.

(From United States Consul Diederich, Bremen, Germany.)

The decreasing emigration to the United States via Bremen, which began in November, 1903, as mentioned in my annual report for that year, lasted throughout the first ten months of the year 1904, but in November and December the tide rose again to a height exceeding by far that of the same period in 1903. Whether this will continue throughout the new year remains to be seen, but the indications are that it will.

Grouped by their nationalities, the emigrants passing through Bremen, during 1904, on their way to the United States, were inspected from month to month and numbered as follows:

Detailed emigration to the United States via Bremen in 1904 and totals of four preceding years.

Month.	From—					Total 1904.	Total 1903.
	Germany.	Austria.	Hungary.	Russia.	All other countries.		
January	673	1,224	1,274	1,354	145	4,670	9,199
February	651	1,661	2,187	2,028	140	6,667	13,677
March	1,545	2,907	4,371	3,654	266	12,743	18,826
April	1,700	2,972	3,071	3,111	76	10,930	14,983
May	1,605	3,712	4,286	4,140	133	13,876	22,199
June	1,002	2,470	2,688	3,966	48	10,174	12,456
July	1,097	1,545	1,870	3,606	66	8,184	11,347
August	1,179	1,553	2,378	3,647	64	8,821	10,130
September	1,552	2,299	3,082	2,588	90	9,556	16,065
October	1,390	3,166	3,338	4,391	189	12,474	17,215
November	911	3,704	4,105	4,438	148	13,306	11,749
December	422	2,653	4,176	3,133	85	10,469	6,426
Total	13,727	29,866	36,776	40,051	1,450	121,870	164,271
Total 1903	15,838	44,076	69,510	31,304	3,543	164,271	.....
1902	13,140	50,271	47,642	22,650	897	134,600	.....
1901	8,550	36,675	42,159	15,459	371	103,214	.....
1900	8,565	26,729	31,523	19,589	1,131	87,537	.....

EMIGRATION AND STEAMSHIP RATE WAR.

Emigration from Russia has been increasing since 1902, but it took a decided upward bound in the year just closed. Local troubles started an exodus from that country several years ago, but the outbreak of the war with Japan produced a stampede, which is likely to continue. There were comparatively few German emigrants to the United States in 1904. The Austrian and Hungarian emigration from Bremen fell off most of all. This decrease was caused chiefly by the rate war between the trans-Atlantic steamship lines, in which the North German Lloyd was a heavy loser. Before this trouble began there were three large groups of steamship lines engaged in carrying emigrants to the United States. These were

bound by a mutual agreement and each of them had its own sphere in which to do business. The first group comprised the English lines and the Scandinavian-American Line, which controlled all the passenger traffic from Great Britain and Scandinavia, including Finland; the second group consisted of the so-called continental lines—the North German Lloyd, the Hamburg-American Line, the Red Star Line, the Holland-American Line, and the Compagnie Générale Transatlantique—which took care of all the emigrants from Germany, Russia, Austria-Hungary, and the Balkan States, etc. A certain percentage of the continental business, however, was guaranteed to the English lines, and, in return, the continental lines were to book a small number of Italians. The third group was formed by the steamers running from Italian ports, and these naturally controlled the passenger business of that country.

For years this agreement had been carried out successfully, but early in the season the Cunard Line left the combine and began running steamers between Fiume and New York carrying steerage passengers, thereby making war upon the continental lines in one of their important districts.

The Hungarian Government first offered the privilege of taking passengers from Fiume to New York to the continental lines, but this was declined, as the companies saw that this route could not possibly offer any advantage to the emigrants; on the contrary, it was felt that it was bound to bring hardships upon them by more than doubling the duration of the voyage without saving any expense. The vast majority of the Hungarian emigrants would, if left to themselves, prefer to go by the old route, via Bremen or Hamburg, it being shorter and more convenient. This the Hungarian Government determined to prevent. By a contract it guaranteed to the Cunard Line 30,000 passengers per annum, and all emigrants were then compelled by stringent police regulations to leave the country via Fiume, those objecting to doing so having no end of trouble and annoyance.

After some futile attempts to come to an understanding with the Cunard Line, the continental lines decided to put steamers in the Scandinavian service, and to sell tickets at reduced rates. This step was met by the Cunard Line offering low rates to third-class passengers on the Continent, thus drawing large numbers of them, especially Russians, to Liverpool. The continental lines then entered the field for British steerage passengers, and for a while the rates from Great Britain to New York were reduced to \$10; but, during all this conflict the continental lines, to their credit let it be said, avoided reducing the rates to Russian passengers, so as not to encourage emigration among the poorer classes of that country.

Both parties grew weary of the fight, and a number of conferences took place which led to an agreement at the end of 1904, and the old

business relations have been almost all restored. The contract of the Hungarian Government with the Cunard Line was largely annulled, particularly as to the part by which it had guaranteed to the British steamship line 30,000 emigrants per year. It is now reported that this guarantee has been given by the continental lines. I am informed, however, that another feature of the old contract still holds good—that the Hungarian Government still demands from the forwarding company 10 crowns (\$2.03) per head for every Hungarian emigrant. It is claimed that this money goes into a relief fund for emigrants. So far as I can learn the only line now licensed to take Hungarian emigrants from Fiume is the Adria. While the Hungarian Government persistently refuses to grant this privilege to foreign steamship lines, it tacitly allows the Adria to turn over some of its passengers to outside companies. Such is the condition at this writing, but negotiations are pending, and it is expected that the port of Fiume will soon be open to other emigrant ships.

Before the rate war the prices for steerage passengers were: Bremen to New York, by fast steamer, \$40.46; by mail steamer, \$38.08. After the rate war began the prices for Hungarian passengers were thus reduced: Bremen to New York, by fast steamer, \$33.32; by mail steamer, \$28.56. The lowest prices at which tickets were sold here were: Bremen to New York, by fast steamer, \$16.66; by mail steamer, \$11.90. The normal prices have now been restored.

STIMULATING EMIGRATION.

The competition between steamship lines is very pronounced, hence it is frequently charged that they urge their agencies to stimulate and facilitate emigration from other countries to ours. It is believed that each competing company will use every means to secure the largest possible share of the traffic, and it is also supposed that there is good reason to believe that European communities make the most of the opportunity of getting rid of their undesirable population. The German steamship lines running to the United States, however, use every precaution to prevent people from starting for our country who are not entitled under the laws to land; to do otherwise would bring financial loss to them.

INSPECTION OF EMIGRANTS.

Our immigration laws are posted at every one of the German passenger agencies in foreign countries, in the language of each country, and their agents know that they will be held strictly to account if they book passengers who are finally rejected by our commissioners of immigration. The North German Lloyd Steamship Company and the Hamburg American Line, at considerable expense and with the sanction of the German Government, have established so-called control stations at

the principal railway depots between Russia and Germany, and have also arranged similar stations on the Austrian frontier, where passengers desiring to pass through Germany, booked for steamers at Bremen or Hamburg, are examined, and if found not to be in good physical condition are sent back to their homes at once. The army of 121,870 people that passed through the consular and medical inspection here during 1904 had all been inspected once before at the frontier stations, where 5,967 persons were rejected for the following reasons: Trachoma, 2,923; granulosa, 2,333; other diseases of the eye, 134; fevers, 418, all other diseases, 159; total, 5,967.

That this sifting process on the frontier might not be improved upon no one will claim, but the foregoing clearly shows that quite a number of undesirable aliens are sent home before they get fairly started for the United States. Those who passed were taken by trains to Ruhleben, a sort of emigrant camp near Berlin, at which place they were inspected once more, and then forwarded to Bremen or Hamburg, where they were taken in hand by boarding and lodging-house masters, who are obliged to conduct business under the strictest police regulations, and thence the emigrants took steamer for the United States.

Prior to embarkation every one of these emigrants is again examined by a board of three physicians, under the supervision of the American consul. The following list will show the number of aliens rejected at the consular inspection and reported to the commissioners of immigration, and also the reasons for their rejection:

Contagious diseases of the eye, 913; noncontagious diseases of the eye, 406; crippled and deformed, 260; measles, 8; illegal pregnancy, 3; lupus, 4; favus, 29; deaf and dumb, 1; carcinoma, 1; intoxication of nicotine, 1; blind, 180; fever, 25; scabies, 11; eczema, 28; chicken pox, 4; scarlet fever, 1; unmarried with child, 2; idiocy, 4; tuberculosis, 1; fresh wounds, 1; hernia, 10; erysipelas, 6; senility, 259; spinal disease, 6; total, 2,164.

Of the vast number of people landed at our various ports from Bremen the United States commissioners of immigration deported only 89 who were found to be undesirable on account of disease, probably developed during the voyage. This is a most gratifying result, and speaks well for the conscientious, painstaking, and competent manner in which the officers charged with this work have performed their duties at these inspections.

It will be noticed that while the volume of emigration fell from 164,271 in 1903 to 121,870 in 1904, the number of people detained and rejected at the consular inspection was more than doubled. It is manifestly to the interest of the steamship companies to find out who are undesirable emigrants and to refuse them transportation, for the companies must deport all who from any cause are rejected, and in addition must pay a fine for each alien passenger discovered with a contagious

disease. Our inspection here primarily redounds to the interest of the North German Lloyd Steamship Company, but the United States gets the full benefit thereof, as it certainly keeps out some of the most obviously undesirable people, and to accomplish that is well worth the time and labor spent.

UNDESIRABLE RUSSIAN EMIGRATION.

The larger number of rejected cases also indicates that the character of a number of the emigrants passing through here last year fell below the usual standard. This was owing to the war in the Far East. Large numbers of Russians deserted to avoid military service, many of whom belonged to the lower stratum of society. As they passed through here they were vaccinated, their general physical condition carefully examined, and many rejected. Most, however, passed muster, and were found supplied with sufficient funds to carry them through. Thousands of other Russians, of the very lowest type, were rushed over to England through the ports of Libau, Hamburg, Bremen, and Rotterdam. For months the newspapers of London were full of harrowing accounts of the overcrowded condition in the labor market there, of the alarming number of unemployed people, and of the terrible suffering among the poor, which the relief societies, both public and private, were not able to alleviate; and it was claimed that this great calamity was mainly brought on by the Russian aliens flocking to the great city. It is a notorious fact that everything was done to rid the city of London of these Russians by assisting them to America.

Since I entered upon my present duties, I have seen most of the 611,492 emigrants that passed through Bremen, but official candor compels me to say that some of these Russian refugees belonged to a lower type than I had ever seen. As they are led through the streets of this city to the dock of the Argo steamship line, to be transported to England, it is a common remark heard on every hand, "How can England and America receive such people?" Yet the Bremen population is hardened to such sights, the main streets of the city being daily thronged by emigrants of all nationalities on their way to other countries. Should the war continue, this rush of the fugitive Russians to our country will also continue, and I can not help feeling that many of them are very undesirable. Unfortunately our present immigration laws do not reach them. They impress one as being more or less physically and mentally degenerate, unable and unwilling to do any but the cheapest kind of work, and by overstocking the labor market they tend to reduce the standard of living of the American wageworker, and to increase the army of the unemployed and discontented, as there seems but little probability that such as these will be uplifted by our institutions and civilization.

DESIRABLE IMMIGRANTS.

However, this class of Russians, now leaving their country, forms but a very small part of the people inspected here. The great majority are of superior quality as to health and general appearance, as the Lloyd Steamship Company charges higher rates here than elsewhere and the steerage capacity of its fast steamers is always crowded and only emigrants of the better class can afford to embark at Bremen. Of course, even some of these have to be told that under our laws they can not enter the United States, but the number of such is comparatively small. Upon the whole, the aliens passing through Bremen on their way to the United States are in good physical condition, many of them of fine physique and showing abundant vitality, both men and women. A large number of them are field laborers, everything about them showing that they have lived in the open air and are accustomed to the simplest habits of life.

DIRECTING EMIGRATION IN THE UNITED STATES.

An effort should be made to distribute these people over our farm lands, east, south, and west, where there is great demand for labor, and where they would, in the course of a few years, fall into our ways of living and become good and useful citizens, instead of being permitted to remain in our crowded cities. I am glad to note that an effort in that direction is at last to be made. Many of these people already have decided where they want to go and carry with them railway tickets to their places of destination in the United States.

RETURNING EMIGRANTS.

In discussing immigration one should not lose sight of the fact that a large number of aliens admitted to our country return to their former homes. When, early in the spring of 1904, a depression was felt in the various fields of labor in the United States, some of the trans-Atlantic steamers eastward bound were fully as crowded with steerage passengers as they were when they were going the other way. Thus not less than 35,616 steerage passengers were landed in Bremen, of whom 32,280 came from New York, 3,090 from Baltimore, and 246 from Galveston. The great discontent among the laboring classes of Europe, stimulated by rumors, often exaggerated, of the wonderful prosperity in our country, is the prime cause that brings this prodigious swarm of aliens to our gates from all parts of the world, and when they find things are not as they expected, or that they can not find employment, owing to dull times, large numbers of them return to their native country.

Another class of people met not infrequently at our inspections are naturalized American citizens who, after having visited friends in their

native country or having looked after private interests, are again about to take steamer for America. They were once Germans, Austrians, Hungarians, Russians, Bohemians, or Roumanians, but they are now Americans. They were glad to see their old home once more, but usually they are doubly glad to get back to their new home, once their land of promise, but now their land of opportunities, of liberty, of political equality--the land to which they owe all they call their own, however humble that may be. When I reflect upon the triumphant pride with which they refer me to their citizenship papers; with what genuine satisfaction they make mention of their families, their homes, and their businesses, and with what warm enthusiasm they speak of their adopted country, I sometimes wonder if we, who are American born and hold citizenship as our birthright, are as deeply sensible of that high privilege.

HENRY W. DIEDERICH, *Consul*.

BREMEN, GERMANY, *January 31, 1905.*

SUGAR TAX AND SUGAR PRICES IN THE UNITED KINGDOM.

(*From United States Consul Mahin, Nottingham, England.*)

A topic of lively discussion in the United Kingdom is the rise in the price of sugar. The following table of prices shows the retail advance in a year in the grades of sugar most commonly used:

Price of sugar in England in February, 1904 and 1905, per pound.

Kind.	February, 1904.	February, 1905.
	Cents.	Cents.
Lump.....	4 to 5	6 to 7
Granulated.....	3½ to 4	5½ to 6
Castor.....	4½ to 5	6 to 7
Demerara.....	4 to 5	6 to 7

It is believed that prices will still further advance—at any rate, till the acreage of beet sowing in April is known. If the acreage should be very great, prices are then expected to decline.

The cause of the increased prices is variously assigned and is the subject of much discussion. The chief wholesale grocery firm here attributes the increase to larger consumption on the Continent and to the dry summer of 1904, which prevented the beet from swelling, thus causing very small roots. Another firm indicates speculation as an important element.

The opponents of the present Government attribute the advance to the provisions of the Brussels sugar convention in 1902, coupled with the duty on sugar imported into this country, amounting to 4s. 2d.

per hundredweight (\$1.01 per 112 pounds), equivalent to a little more than nine-tenths of a cent a pound. Under the terms of the Brussels convention, Great Britain can not import sugar from certain countries not joining in the convention—Russia, for instance, in late years second to Germany only in production of sugar and a former source of supply for the United Kingdom. The Government is bitterly denounced by the opposition, and by some grocers and confectioners, for abetting or consenting to such restriction, since, as is alleged, no countries joining in the convention could make up to Great Britain the shortage of sugar caused by the prohibition against buying from Russia. Opposed thereto, however, is the assertion that the imports from such countries averaged the immaterial amount of only about 30,000 tons in the total import of 1,500,000 tons of sugar per year, a proportion relatively so small as to have no effect on prices. Furthermore, it is pointed out, Russia shared in the 1904 shortage, and now has no sugar to export.

The sugar tax imposed in 1901 is also denounced by the opposition as a war tax and also on general principles, and more grocers and confectioners petition for its repeal than condemn the provisions of the sugar convention. That is to say, the objections to the convention's provisions are mainly political, while opposition to the sugar tax is not only political but is also widespread, for commercial reasons, among friends of the Government.

The convention, its defenders declare, had no influence on the price of sugar, unless to lower it; for it appears that prices were lower for some months after the convention (signed in March, 1902) took effect, in September, 1903, and that there was no material advance in prices for about a year afterwards. They charge the advance wholly to the short Continental beet crop in 1904—the shortage being, by the latest estimate, 1,180,000 tons. This was offset by an increase of 400,000 tons in cane sugar (mostly West Indian), which was not, however, sufficient to hold down prices. It is claimed that this increase was a direct result of the abolition of sugar bounties by the Brussels convention, and that the stimulus thus given to the colonies will this year and in following years greatly enlarge the area of cane growing. It is even asserted that without abolition of the bounties the cane-growing industry will have been virtually ruined. Summing up, the Government's friends contend that but for the convention prices would be even higher than they are now.

As to the influence of the duty on sugar, its defenders point out that the price in this country was more in 1900 before the duty was imposed, and in 1901, when it took effect, than in 1902, when the tax was being collected. In 1903 the price rose but was still less than before the tax was levied; and this was also true of even 1904. No one seriously contends, however, that the removal of the duty would

not reduce the present price of sugar; for as none is produced on these islands, they can not offer that wholesome competition which compels the foreign exporter to pay, indirectly, at least a part of the import duty.

The Government has been petitioned by associations of grocers, confectioners, and other trades people to repeal the sugar duty, but replies in each case that it can not spare the £6,000,000 (\$29,199,000) from its revenues. It points out also that the duty was not imposed as a war tax, but, as explained by the chancellor of the exchequer at the time, was necessary to meet an increase in ordinary public expenditure.

But whatever the cause of the increased price of sugar, it is evidently a great hardship to various industries. Confectioners and mineral-water manufacturers in particular seem to be severe sufferers. It is claimed that the employees of industries using sugar as raw material number 12,000 less now than before the sugar tax was imposed and that shorter working time affects 50,000 more. In this city the number of confectioners' employees is reduced some 200. One large London confectionery concern claims that annual profits of about \$100,000 before the sugar duty was imposed have dwindled away to an actual loss of nearly \$10,000 in 1904. Another similar concern in the midlands says it has paid no dividend since 1901 and declares that the tax has reduced its "turnover" more than \$250,000 a year, besides compelling it to pay thousands of pounds in duty on the sugar it used. It is averred that the only confectionery manufactories now in existence have been saved by their strong financial position, and that, generally speaking, all industries dependent upon sugar are being "throttled."

The president of the National Union of Mineral Water Manufacturers says that his trade is suffering as much as that of confectionery; that the 3,000 manufacturers of mineral water in the kingdom employ, in normal times, 200,000 workers; that many factories are now closed, and that in others the working force has been reduced and wages cut. The total number of hands thrown out of work is not stated.

The manufacture of jam, which is a great industry in this country, is also asserted to be disastrously affected, but I have not yet learned any details.

Besides the actual loss of profit and employment in British manufactures, it is stated that Continental makers of sugar products are now able, by reason of the lower cost of the raw material to them, to flood the British markets with their goods and crowd out what is left of the home article; and that for the same reason former export markets are now closed to the British product.

Added to all this the inevitable reduction of sugar consumption by the masses of the people will, it is prophesied, lead to physical degeneration.

The British Federation of Confectioners' Association resolved at Hull, on January 20, to ask members and customers to vote, at the next parliamentary election, for only such candidates as will support abolition of the sugar tax. So politically potent in fact is this question apparently becoming that it might be the deciding factor at the election. The success of the Liberal candidate at the recent by-election in North Dorset, where previously there was an ample Conservative majority, and where the sugar question was pushed to the front by his supporters, is referred to as indicating public sentiment.

A new monthly journal has been started to help the movement for untaxed sugar.

Another phase of the situation is renewed activity in the promotion of sugar-beet growing in this country. Among recent experiments, it is announced that the agricultural college at Kilmarnock, Scotland, has succeeded in growing a large crop of sugar beets; that the yield is fully up to the Continental average, and that the roots give double the quantity of sugar that the German beet does. The experimenters advise Scotch farmers to grow sugar beets, and suggest the establishment of sugar factories in the west of Scotland.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *February 1, 1905.*

COTTON SUPPLY OF SPAIN.

(From United States Consul-General Ridgely, Barcelona, Spain.)

More than 100,000 people are employed in the various cotton mills and factories in and about Barcelona, which is the home of the cotton industry in the Iberian Peninsula. In view, therefore, of the unexpectedly low price of cotton in the United States, I have made careful inquiry among the leading cotton spinners here as to the exact local situation. The replies to my inquiries convince me that just at this moment no cotton center in the world would more gladly welcome 10-cent cotton than Barcelona. To begin with, it should be understood that the average annual consumption of cotton here is close to 400,000 bales, of which 80 per cent comes from the United States. During the years ended September 30, 1902, 1903, and 1904, the consumption was 387,980, 390,036, and 300,737 bales, respectively. The present situation may be briefly described as follows:

A general depression prevails and prices are cut very low. Several causes have contributed to the unsatisfactory conditions. The loss of the colonies, where Spanish manufacturers marketed more than 20 per cent of their output, resulted in overproduction and ruinous competition for the home trade which, thanks to the protective tariff, still remained a monopoly for native goods. Then again, the recent rapid

fluctuations in the price of raw cotton have caused very heavy losses to the majority of spinners and manufacturers. When about a year ago the rise took place many manufacturers who had not covered their requirements in advance found themselves obliged to close their mills, as the home market refused to pay the enhanced cost of the manufactured goods and spinners were afraid to accumulate stocks at such high prices. Within the past few weeks the unexpected fall in cotton has caught most spinners with purchases made at much higher rates than those ruling at the present moment.

Negotiations are in progress for a united effort on the part of manufacturers to find an outlet abroad for their surplus product. At present exports to foreign countries amount only to about 10 per cent of the total product, and are confined to hosiery and cheap printed goods.

The following statistics show the amount of cotton on hand at the beginning of the years ended September 30, 1902, 1903, and 1904, the amount received during each year, and the consumption in each year, together with the countries from which the cotton is imported:

Supply and consumption of cotton in Spain during years ended September 30, 1902, 1903, and 1904.

Item.	1902.	1903.	1904.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
On hand at the beginning of year.....	35,000	39,000	38,000
Receipts during year.....	391,980	384,036	291,737
Total supply.....	426,980	423,036	334,737
Consumption.....	387,980	390,036	300,737
Balance on hand at close of year.....	39,000	33,000	24,000

Imports of cotton into Spain during years ended September 30, 1902, 1903, and 1904.

Country.	1902.	1903.	1904.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
United States.....	298,265	260,072	172,908
Peru and Brazil.....	1,098	3,665	6,645
Asia (balotes).....	13,842	6,684	16,929
Jumel.....	31,764	24,821	24,920
India.....	19,645	57,353	6,893

The price of cotton to-day in Barcelona is 74 pesetas (\$10.50) per quintal of 50 kilograms (110 pounds). The market is steady.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *February 21, 1905.*

LEGISLATION FOR THE DEVELOPMENT OF THE BELGIAN MERCHANT MARINE.

(From United States Consul-General Howe, Antwerp, Belgium.)

The Belgian Government has just laid before the Chamber of Deputies a bill for the encouragement of the merchant marine by making certain changes in the law governing ocean and interior navigation. These changes modify the law of August 21, 1879, which, although it improved the commercial code of 1808, has become antiquated and in no way adequate to meet the exigencies of the times.

Maritime credit is imperfectly provided for, and the present law leaves it entirely in the hands of the interested parties and the courts to make the researches necessary to establish what applications of the law of bottomry of 1851 have been made with regard to vessels in litigation. This has given rise to a state of uncertainty in the existing laws, and the Government has decided to organize a new system of legislation governing maritime property in the interest of third parties. Shipbuilding demands the outlay of large amounts of capital, and capitalists have been timid in the presence of a system which imperfectly protects the rights of mortgagees.

The bill in its first part unifies and simplifies all the formalities relative to the enrollment of vessels, which formalities, under the present system, are extremely complicated. The registrar is now obliged to keep a separate register for enrollment, a separate register for transfers, another for judgments and seizures, and finally a special classification in the name of each owner, giving a summary of all official acts concerning him and a reference to the register in which these acts are inscribed. To ascertain the exact situation of all vested interests in a vessel, not only must the present owner be known, but also all former owners who have had in any way to deal with third parties. According to the new bill, it will be the vessel itself and not the owner which shall be the object of registration, and the several registers above mentioned will be replaced by a single register which will give the entire legal status of a vessel from the date of its first enrollment. The enrollment of vessels will be effected at the Bureau de la Conservation des Hypothèques d'Anvers (bureau of mortgages).

The bill makes a distinction between ocean-going vessels and canal and river boats. The word "vessel" is taken to mean all sorts of craft navigating the seas for business purposes. Contrary to the opinion expressed by the maritime congress held in Brussels in 1888, the tonnage is not taken into consideration in this definition, because there are seagoing vessels of from 3 to 4 tons that have crossed the Atlantic, while there are also canal and river boats of from 1,000 to 1,500 tons which never go to sea. The word "boat" is interpreted by the law as designating all craft occupied in business pursuits on canals or rivers.

Articles 25 to 36 of the bill regulate bottomry, and article 25 establishes the principle that vessels may be hypothecated by agreement between the parties. A mortgage may even be contracted upon a vessel in the course of construction, and may extend, unless otherwise stipulated, to the fittings, rigging, machinery, and apparatus, as well as the cargo. Article 32 fixes at five years instead of three the term during which the registration of the mortgage is effective, and this does away with the obligation on the part of the creditor to renew his contract so frequently. The same conditions are applicable to boats, but the bureau of registration for these will be at Brussels and not at Antwerp.

Another important modification in the bill relates to the privileges which take precedence of mortgages and which render their effect uncertain, owing to their excessive number. The Government proposes to do away with the privileges of suppliers, builders, and of the seller, all of whom can protect their rights by means of a mortgage. It also suppresses the privilege of the underwriter for insurance premiums, for it holds that in case of loss or damage the underwriter may cover himself by withholding the amount of premiums due from the capital to be paid over. The following privileges, however, are upheld: Law costs, navigation and towage dues, watching charges from the time a vessel enters the port until it is sold, costs and indemnities due on account of salvage during the last voyage, wages of captain and crew due according to the last shipping articles and crew list, amounts of money loaned to the captain for necessary expenditure on behalf of the vessel during its last voyage, damages due to charterers and damages due by reason of collision.

CHURCH HOWE, *Consul-General*.

ANTWERP, BELGIUM, *February 18, 1905.*

LABOR-SAVING MACHINES IN CHINA.

(*From United States Consul Anderson, Hangchau, China.*)

The conservatism the Chinese people show with respect to the introduction of labor-saving machinery in China is proverbial, and the chief reason given therefor is that the introduction of labor-saving machinery would be harmful in a nation where there are millions of people who will starve if there is the least disturbance of the demand for their labor. To argue that there will soon be a readjustment of things in case such machines are introduced, and that the people ultimately would be greatly benefited, is met with the reply that millions would starve while the readjustment was coming. And there is a great deal of truth in this argument. The Japanese, however, seem to be solving the

problem for China by the introduction of machines which save some labor, though not enough to suddenly deprive any considerable number of people of work. One example of this is to be seen in a foot-power cotton gin which is now quite common in some parts of the country where the people manufacture their own cotton goods and handle their cotton crop generally. The old method of ginning by hand is infinitely tedious. One of these foot-power gins will enable a workman to turn out about 100 pounds a day. The machines are roughly constructed and very cheap. They will enable their owners to accomplish far more than they can without them, and at the same time will cause no disturbance. They represent a step in the direction of better things in China's cotton world, but the step is not a very long one.

A similar condition is to be found in silk reeling. The Japanese have designed a silk-reeling machine constructed of wood, with a few glass eyelets and metal fittings, which they regard as a considerable improvement over the old Chinese machine similarly constructed. An expert on the Japanese machine can reel more and better silk in a given time than an expert can on a Chinese machine. At present, however, the Chinese seem disposed to cling to their old machines and the mass of work done outside of the steam filatures is done on the old-fashioned Chinese machine. The sericultural schools will probably eventually succeed in introducing the Japanese machine.

The Japanese have control of the markets in this part of China and over most of the Empire for many things of apparently small moment and certainly of small cost. This is true of cheap grades of cotton goods, toilet articles, light hardware, and small goods generally, and of goods promising industrial and commercial betterment. It looks very much as though the Japanese were watching the markets of China very closely, not only that they may supply these cheap machines for saving some labor at the present time, but that they may thereby pave the way for greater improvements and more radical changes which the Japanese themselves will make and incidentally which will be able to advance their own commercial interests. It may be relied upon that each successive stage in the changing commercial and industrial conditions of China is carefully noted and acted upon by them. At the present time the Japanese seem to be the only people who are giving to Chinese markets that close attention which the control of them necessarily entails.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 9, 1905.*

PAPER TRADE AND PAPER MANUFACTURE IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

PAPER TRADE.

It is quite possible that it will be profitable for the paper manufacturers of the United States to study the paper situation in China. There are some peculiar turns in the Chinese paper trade, and while China has been making its own paper from a time long before paper was made by western nations, it is importing paper from the United States and Japan at the present time, and may soon be importing much more than at present. It is a notable fact that the port of Hangchau, which is one of the paper-exporting points in China, and which has been the center of a paper-making district for centuries, is importing about two-thirds as much paper, in value, as it exports.

The customs returns for the year show that there was imported into Hangchau, in 1904, 97,600 pounds of foreign-made paper, valued at \$9,769 gold, or almost exactly 10 cents a pound. About half of this paper has been unsized and uncalendered news print of a grade similar, though rather inferior, to the paper sold to newspapers at home, f. o. b. mills, at from \$1.80 to \$2.50 per hundred pounds, during the past four years, and about half has been a sized light-weight book paper of medium quality, which has been imported from Everett, Wash. The inferior news paper has been coming from Japan. Both varieties have been brought in in sizes suitable for small newspaper and pamphlet work, and a considerable portion has been used in the publication of papers and tracts by missions in this city. The Chinese themselves, however, have been using foreign paper to some extent, and there is no reason why they should not use more. In 1903 there was imported 69,300 pounds of foreign paper of the above qualities, valued at \$8,329, or about 12 cents per pound. In 1902 the amount imported was 63,700 pounds, valued at \$7,000.

During those years the Chinese have been exporting from this port, mostly to other ports in China and some to Japan, paper of greater value and in greater quantity. In 1904 there was exported from Hangchau 121,700 pounds, valued at \$17,580 (gold), or about 14½ cents a pound. In 1903 the exports amounted to 138,900 pounds of native paper, valued at \$22,386, or between 16 and 17 cents a pound. In 1902 the exports of native paper from the port were 126,400 pounds, valued at \$9,991.80—a very low average price, which is explained by the preponderance of paper of a very low grade. This native paper exported seems to be divided into three grades; (1) writing paper of the thin Chinese sort, generally colored on one side; (2) the better grades of wrapping paper, with a fair proportion of rough bamboo papers, and (3) Chinese black paper, used for decoration and other special Chinese

purposes. There is brought into Hangchau about 500,000 pounds of native paper every year, according to the customs returns, but this paper merely comes from the district about the city, where it is made by the natives in their homes, and is practically a Hangchau product consumed at home.

PAPER MANUFACTURE.

The method of manufacture of this native paper may throw some light upon conditions in the paper trade of the country. The vast mass of Chinese paper is made by hand in small establishments. The rough paper is made back in the hills where there are no means of floating bamboo to market, but where there are canals and water enough to float down light boats with loads of paper. The natives cut their bamboos in convenient lengths, and soak them in lime vats for several months. When the wood is disintegrated they strain it with homemade strainers made out of bamboo fibers, and gather up enough of the pulp to make one sheet of paper at a time. The fibrous mass is beaten or pressed into the paper sheet, and when the greater part of the moisture is pressed out, by hand, it is pressed up against a smooth surface, made for the purpose, on the outside of a native stove or furnace. Sometimes this is merely a smooth place on the outside of the household chimney.

When the sheets are dried in this manner they are counted and packed in bales, which are placed under a native press and kept under it until the product is taken to market. As is usual with Chinese producers of articles of merchandise of this sort, the manufacturer is also the sales agent and transportation company. When the Chinese paper maker has used up his supply of bamboo and rice straw and other paper materials, he takes the result of his labor to market, disposes of it, and goes back home with his winter supply of city goods. The finer grades of paper are made in the cities, as a rule, with appliances which seem very crude, but the quality of paper produced is surprisingly good.

FIELD FOR FOREIGN PAPER.

The field for foreign paper in China is great, in spite of native competition. It is evident that the prices at which paper of good quality sells are such that American paper manufacturers ought to be able to sell first-class paper at a fair profit. The number of newspapers of all languages printed in China is constantly increasing, and as the increase comes the inability of the natives to manufacture suitable paper in the required quantities at reasonable rates will become more and more apparent. They simply can not produce the vast amount of paper consumed in such enterprises with their limited means of manufacture. It is probable that foreign paper manufacturers can even

now furnish papers of the sort used in China at lower prices than they are to be had and with good profit. This certainly is true of the paper now being imported. With water transportation, paper mills of the United States, both in the East and in the West, ought to get to China paper which is now selling for 10 and 12 cents a pound at a rate far below that, including more than the usual profit.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 31, 1905.*

AMERICAN THROUGH BILLS OF LADING AND EUROPEAN LAW COURTS.

In transmitting the following article from the *London Shipping World*, of January 25, 1905, United States Consul Walter C. Hamm, Hull, England, February 10, says that by taking note of the decision of the Belgian court of appeals American exporters will avoid delays and losses: .

The court of appeal of Brussels has lately given a decision which is of much importance, not in itself, for the interests involved were not large, but as illustrating the value put by courts of law on the Continent upon what the Americans call through bills of lading, which are really only railway agents' receipts for goods. The decision has been much commented on, and as French and other courts take views of bills of lading law similar to those of the Belgian courts, it is likely that the decision may be to some extent a precedent outside Belgium, although, of course, it will not be a legal one except in that country. The decision, which is on an appeal, is that these documents are not bills of lading, as they do not give the holder the rights and guaranties which a real bill of lading confers.

We have ourselves had occasion to remark upon the identical subject, and have stated what we thought about it. What is called a through bill of lading, signed by an American railway agent, and without any steamer's name or signature of anybody connected with any particular steamer, is merely a railway receipt. The rate, indeed, from the inland American place—say, Chicago (as in the case in question)—to the European destination, is stated in it, and it is stated to be a through rate. It is true that it is a through rate, but it is one that is made by the railway agent and not by the steamship company, who agree in their proportion with the railway, and that is all they have to do with the rate. This creates evidently, as we held, a divided responsibility and, in fact, creates, or would create, if the document were really a bill of lading, two titles to the same goods, one on behalf of the railway, the real shipper, and one on behalf of the real owner of the goods, who supposes that he transfers that title to his consignee or buyer when he sends him the precious document duly indorsed. We may add that this objection to the double title is shared, as we happen to know, by some of the leading authorities on the American side. But the vicious system remains. A good deal seems to hang upon the

practice in America of calling a railway consignment a shipment, even when entirely a railway transaction, and *par suite*, the consignor a shipper; and a mere railway receipt—whether a simple inland one or one of these through ones—a bill of lading. Thus, at the head of each page of the American railway classification of goods is a prominent notice beginning “Property shipped not subject to uniform bill of lading conditions,” etc. Everything is “shipped” when loaded on wagons. The term bill of lading, to us, means quite another thing. It is a proof that certain goods have been shipped in a certain vessel for a certain destination, and conveys the property in question, when duly in order, to the holder of the bill. We always connect the term with sea transit. On the Continent the view is even more strictly so; a Belgian or Frenchman has no conception of the term *connaissance* referring to anything but a maritime document. A German calls the railway document, indeed, a *Frachtbrief*, but the maritime one a *Connossament*. Both are used in the through shipment of the German-Levant and German-East African tariffs (really through tariffs); but it is the shipping company which makes out the *Connossament*, and deals with it as instructed by the consignor in his *Frachtbrief*, and it is signed either by the captain or for him; not by a railway agent or employee. It is a real sea bill of lading therefore (however objectionable in other respects).

The case before the Brussels court of appeals was, shortly, this: The Morris Packing Company, of Chicago, sold to Staackman & Orchiz 20 tons of bones delivered *c. i. f.* Antwerp, payment against documents. The consignees refused the documents as insufficient, but the tribunal of commerce of Antwerp “condemned” them to accept them. They appealed successfully. The so-called through bill contains a clause to the effect that each carrier (rail or sea) is only responsible for damages occurring on his part of the transit. In this case a marine policy was sent by the consignors, along with the bill of lading and other usual documents, but the risks on the railway portion were uncovered, and therefore the conditions of sale—cost, freight, insurance—were not fulfilled. The “through bill of lading” itself was not a bill of lading, so that the conditions were doubly unfulfilled. In commenting on the abuse of these documents a Continental friend remarks that sometimes they are signed not even by a railway agent, but merely by some firm of shipping or forwarding agents. What sort of a guaranty does such a thing afford?

The moral we draw is that it would be better to stick to the old meaning of bill of lading and let it continue to be a receipt for goods given by the master or owner, or their representatives, against the goods being actually put on board.

An exception might be made in the case of railway owned steamers. Such bastard documents as the American through bills should not be admitted into commerce. The Continental nations even, which otherwise deem the terms of a bill to be a freight contract, do not, as we have seen, admit them either as such a contract or as forming a title to the goods shipped.

MEXICAN DYNAMITE ON THE MEXICAN MARKET.

(From United States Consul Kaiser, Mazatlan, Mexico.)

"El Occidente" of this city, under date of February 25, 1905, announces that a Mexican sailing vessel loaded with 750 cases of dynamite will enter this port within a day or two. This dynamite was manufactured at the new factory located at Torreon, State of Coahuila, which will enter into sharp competition with the various dynamite factories of the United States that, before this event, controlled this market.

The imports of dynamite from San Francisco, Cal., during last year amounted to about 370,000 pounds, valued at more than \$60,000 gold, and 2,000 cases of fuse and caps, valued at \$15,000 gold.

In the report on gunpowder and other explosives,^a called for by the Department, I called attention, under date of December 8, 1904, to the fact that a concession had been granted for the manufacturing of all kinds of explosives, and that for the concession the company had agreed to pay to the Mexican Government 30 per cent in taxes. I have learned of two factories for explosives being now in operation, one at Torreon and the other at Durango, and there may be others.

The new protective tariff on dynamite and other explosives will go into effect March 1, 1905, and will be 21 cents per kilogram, or \$210 per ton of 1,000 kilos (2,204.6 pounds), which is prohibitory. The dynamite imported into this port has been used almost exclusively in the mines, which are chiefly controlled by Americans, and the advance in the price of dynamite, which will undoubtedly take place when the new tariff goes into effect, will cause a serious addition to their expense accounts.

LOUIS KAISER, *Consul*.

MAZATLAN, MEXICO, *February 27, 1905.*

OPPORTUNITY FOR AMERICAN SCULPTORS.

(From United States Consul Gottschalk, Callao, Peru.)

The Peruvian Government is about to cause the erection in the public square of Lima of a statue to Gen. José de San Martín, through whose efforts Peru was enabled to establish its independence in 1821. Designs for this statue are to be solicited from sculptors the world over, and with that end in view the various Peruvian consuls abroad have been provided with biographical and pictorial matter relative to General San Martín, and instructed to afford any information

^a See page 244.

that may be asked of them. The hero is to be represented in a standing posture, proclaiming Peruvian liberty.

A. L. M. GOTTSCHALK, *Consul*.

CALLAO, PERU, *February 23, 1905.*

AMERICAN SILVER MONEY IN CANADA.

(*From United States Consul-General Foster, Ottawa, Ontario.*)

There has recently been a renewal of the discussion of the prevalence of American money in circulation and special disapproval is expressed at the general use of American silver in Canada.

The executive council of the Manufacturers' Association passed, February 16, the following resolution: "That as it is in the interests of Canada, for reasons both financial and political, that the coinage in use shall be Canadian, be it resolved that the Dominion government and the chartered banks of Canada be urged to cooperate in the removal from circulation in Canada of all foreign silver coinage, and that copies of this resolution be forwarded to the minister of finance and the president of the Bankers' Association."

The Canadian Bankers' Association has proposed that the government reimburse the banks for the charges in shipping American silver to the United States upon condition that the banks take at the same time from the government an equivalent amount of Canadian silver. The bankers indicate no disposition to refuse American bills, for the balance of the trade is in favor of the United States, and it is desirable for the banks to obtain American notes at par in order to ship them to correspondents in the United States.

JOHN G. FOSTER, *Consul-General*.

OTTAWA, ONTARIO, *February 20, 1905.*

AMERICAN EXPORTERS AND PHILIPPINE TRADE CONDITIONS.

(*Mr. Samuel B. Shiley, in charge of the Commercial Museum at Manila, to the Secretary of Commerce and Labor.*)

The Commercial Museum of the Philippines has been in correspondence with a large number of American manufacturers for some time, and it appears that they are not properly informed about certain matters, or they are not willing to meet the conditions existing here. With your permission and aid, the museum would like to call the attention of manufacturers who are interested in the trade with the Philippines to a little matter that will have an important bearing on the success or failure of their trade in these islands.

With regard to terms of payment for goods ordered from the United States, nearly all with whom the Commercial Museum has corresponded demand one-half cash with the order and the balance as soon as the goods arrive at Manila.

Taking into consideration the time consumed by sending an order to the United States, the time required to place the order, have the goods packed and sent to the Philippines, plus the delay in the custom-house, the local importer will be out one-half the purchase price, at the very least, three months, more likely four months, before he gets the goods. He must then pay the balance, and afterwards distribute the goods among his patrons in Manila and other cities of the archipelago. In from one to three months later he will realize on the goods from his customers. The importer has thus been out of his money three and six months.

Who can best afford to carry these credits—the importer in Manila or the exporter in the United States? By special inquiry at one of the Manila banks to-day, it is learned that the demand for money at 2 per cent per month is far in excess of what the bank is able to supply. This condition of the money market and this same rate of interest has been with us practically unchanged for the past three years. The exporter in the States can plainly see that it would be economy for him to arrange his prices and terms of payment so that he may carry these credits instead of imposing that heavy burden upon the importer in Manila. If the exporter in the States should grant from three to six months' time, computing interest at an ordinary rate, and adding a reasonable percentage for the risk of deferring payment, his goods would still gain an advantage of from 5 to 7 per cent of the purchase price, as compared with the prevailing terms of payment.

There is a universal disinclination to pay for a thing before you get it. There is an established custom in the Philippines on the part of the importer, the retailer, and the consumer to buy on time. In addition to this, European countries are in the market, freely offering from three to twelve months' time. With such conditions in force here, the American exporter can not help but see the wisdom of more liberal terms in matters of deferred payments.

It frequently occurs that both large and small purchasers who have sufficient resources to make a time sale perfectly safe have no ready cash, and, in consideration of deferred payments, would gladly pay a higher price. Many must buy on time or not at all—that is exactly the situation. The exporters of America or Europe who will meet these peculiar conditions will secure the most profitable trade these islands afford.

The Commercial Museum is always ready to give correct information about the reliability of any Philippine firm. Under this protection exporters of the States may place themselves in a more favorable

position to compete with exporters of other countries. They should take into consideration not only the prices of their competitors, but also their terms of payment, the peculiar situation in the Philippines, the customs and the prejudices of the natives.

SAMUEL B. SHILEY,

In Charge of Commercial Museum.

MANILA, PHILIPPINE ISLANDS, *February 7, 1905.*

COMMERCIAL MUSEUM OF THE PHILIPPINES.

(Inclosure in Mr. Shiley's communication.)

Organization and object.—The Commercial Museum of the Philippines is a branch of the Philippine Museum of Ethnology, Natural History, and Commerce, established October 29, 1901, by act No. 284 of the United States Philippine Commission, and placed in charge of the chief of the ethnological survey. The object of the commercial branch of the museum is to encourage the intelligent and profitable development of the resources of the Philippine Islands, and to aid in the extension of our domestic and foreign trade relations. This will be attained by the collection and exhibition of commercial products and the collection and dissemination of commercial data. The work of the museum will be classified under the following departments:

DEPARTMENT OF EXHIBITS.

Exhibits of native products.—The museum will collect and exhibit, both in the crude and manufactured form, the commercial products of the islands.

Exhibits of imports.—For the convenience of local importers and foreign exporters the museum will procure an extensive and well-selected exhibit of articles imported from foreign countries.

Exhibits abroad.—In order to increase the demand for Philippine products in foreign countries the museum will place exhibits of our native products in the best markets of the Orient, the United States, and Europe.

DEPARTMENT OF INFORMATION.

Concerning the Philippines.—The museum will make the fullest possible collection of data bearing on the resources and the commercial and industrial opportunities of the islands. Parties desiring to engage in commercial enterprises or industrial pursuits are invited to examine the data on these subjects on file in the museum.

Concerning foreign countries.—A systematic study will also be made of foreign markets for the purpose of finding out what they have to sell and what they need to buy; to discover the best markets for both our exporters of native products and for our importers of foreign products.

Sources of information.—By means of trade journals, trade catalogues, consular reports, correspondence with other commercial muse-

ums and chambers of commerce, and by personal investigation, the museum will keep fully abreast of the latest movements, prospects, and thought of the commercial world.

Patrons.—Producers, manufacturers, merchants, exporters, and importers are invited to cooperate with the museum in the collection of these exhibits and data. They are as cordially invited to avail themselves of the benefits to be derived therefrom. Confidential information given to the museum will not be divulged to the detriment of the party giving it. The exhibits and information in possession of the museum will be used in every legitimate way for the benefit of our patrons. The museum makes no charges for any of its services.

POINTS TO EXHIBITORS.

Exporters of other countries, local producers of raw material, manufacturers, and importers may place exhibits in the museum free of charge. The exhibitor, however, is required to prepay all freight on his exhibit to Manila. The best way of sending small exhibits (weighing less than 4 pounds) is by registered mail.

Residents of the Philippines can usually ship their exhibits free of charge on the United States army transports.

On their arrival in Manila exhibits will be placed in the museum free of charge. When an exhibit is installed we call the attention of importers and dealers who are interested in that particular line of goods to the exhibit. Goods are displayed to the best advantage, their uses are explained, and, as far as practicable, tests are allowed to be made. The museum, however, makes no sales for anyone, but it gives special attention to securing reliable firms in Manila and other towns of the islands to represent each exhibitor.

Catalogues, in both English and Spanish, should accompany the exhibits. Prices and discounts should always be given. Confidential discount lists may be sent to the museum. Cable address and codes used should be given in the catalogues.

Address all communications and articles for exhibit to the Commercial Museum, Manila, P. I.

Shipping mark: CMP, Manila, P. I.

COMBINATION OF STOCK COMPANIES IN GERMANY.

(From United States Consul-General Mason, Berlin, Germany.)

Nothing could more clearly mark the rise and decline of industrial and general business prosperity in a highly organized and progressive country like Germany than the record from year to year of the founding of incorporated companies for various purposes of manufacture, mining, transportation, and banking and the subsequent drawing together of these individual units into cartels, syndicates, and other forms of combination to meet new conditions as they arise in respect to the control and purchase of materials and the sale of finished products.

Beginning with the high-water period (1898-99) of the German development, the record of corporate organization in each successive year, is concisely as follows:

Number of companies organized and incorporated in Germany and their total capital and average capital per company, 1898 to 1904.

Year.	Companies organized and in- corporated.	Total capital.	Average capital per company.
1898.....	329	\$110,341,560	\$333,200
1899.....	364	129,564,820	354,620
1900.....	261	81,029,480	309,400
1901.....	158	37,563,500	242,760
1902.....	87	28,210,140	323,680
1903.....	84	71,409,520	749,660
1904.....	104	33,474,700	321,300

The apparent paradox shown in the figures for 1903 and 1904, whereby the number of companies formed during the latter year is shown to have increased, while their aggregate and average capital declined more than 50 per cent, came from the fact that in 1903 the great iron and steel firm of Friedrich Krupp, at Essen, was converted into a stock company, with a capital of \$38,080,000, or more than half of the entire new stock capital of the year.

But by far the most important and striking tendency manifested by incorporated interests in Germany during the past two years has been that of combination into cartels, syndicates, and sale associations of various types, the general purpose of which has been to control competition between rival firms, limit and allot production in harmony with the normal requirements of the market, and to maintain home prices while strengthening the more important interests for aggressive competition in foreign markets. The efforts of the captains in several leading industries to work out these combinations on satisfactory bases would, if described in detail, form an exceedingly interesting history.

First, in 1903, came the combination of four great electrical manufacturing companies into two groups, each of which assigned to its members the exclusive production of certain kinds of machines, and so apportioned between them and each other the territory to be supplied that the ruinous, headlong competition, which in previous years had led some of the companies to take large contracts for lighting, smelting, and power plants and accept payment in stock of the new enterprises, has been definitely abandoned. The leading German electrical manufacturers are now well on the road toward recovered prosperity. They sometimes accept contracts at prices which would be thought unremunerative in the United States or Great Britain, and one hears of German electrical power plants being set up in Glasgow, Mexico, and in various countries of Asia and South America.

Not less notable has been the drawing together during the past year of the great aniline chemical companies in western Germany, whose development during the past thirty years has been one of the marvels of scientific research applied to a productive industry. The great prizes in this field have fallen mainly to the companies whose chemists have succeeded in producing at a low cost important original products like antipyrine, artificial indigo, and groups of new and useful colors embodying a whole gamut of graduated shades. Such discoveries are, of course, promptly patented, and during the life of such patents have been enormously profitable to their owners, a single group of original and useful dyes frequently yielding millions to the company which has held its production as a monopoly. But with the lapse of years many of the important aniline patents have expired by limitation, and the rival companies have begun to manufacture each other's specialties, the market values of which have thereupon dropped to within a narrow margin of the cost of production.

To avert a long course of this kind of competition, five of the great companies at Frankfort, Hoechst, Ludwigshaven, Elberfeld, and Berlin have been for some time in conference for the purpose of forming a gigantic syndicate or combination, which shall secure to its members jointly the control of their several, now unprotected, specialties, and by uniting their collective strength to not only dominate practically the whole aniline export trade of Germany, but also to govern the prices of standard dyes and colors for the home market. There remain outside the syndicate several aniline manufacturers of comparatively limited resources who are not bound by its restrictions, but the five great companies which are parties to the negotiations control in effect the coal-tar color industry of Germany, and therefore of the world, since nearly five-sixths of the total supply of such products is made in this country. The Berliner Tageblatt, discussing the pending negotiations, gives the following estimate of the proposed syndicate as it appears from the German commercial standpoint:

The probability is, therefore, that we shall see organized within a short time a powerful ring in the coal-tar industry. In so far as it concerns the control of the world's markets, one can well approve the motives which lead to the creation of syndicates. But it is possible that if the concentration in the coal-tar color manufacture should go still further it would include also in its monopoly the inland trade. Only a few smaller and technically less highly developed aniline manufacturers remain independent. It should never be forgotten that it has been just the element of competition which has given the German chemical industry its dominant position in the world's markets.

Other branches of German manufacture in which the syndicate idea is now actively prevalent are the cotton textile industry, particularly the department of colored and printed goods and the rubber goods industry, which has held several conferences for the purpose of trying to restrain undue competition and keep the prices of finished

products up to a more normal and profitable relation with the enhanced cost of raw caoutchouc. Finally, the Portland cement industry, which, after years of vain effort, during which the 66 German cement factories have been split up into warring groups, is to hold another conference in Berlin about February 20, at which another effort will be made to "get together" under a cartel that will restrict the hitherto enormous overproduction and arrange to so control prices as to rescue or close certain factories which have been hitherto running at a loss.

The teaching of the whole situation is that while industrial and commercial interests in Germany are steadily recovering from the depression which followed the collapse of 1901-2, they have not yet reached a degree of prosperous activity which justifies large individual operations, and meanwhile there is a general tendency among manufacturers to "sail close to the wind," avoid unnecessary risks, be content with moderate profits, and depend upon combinations which shall eliminate as far as practicable costly and useless competition, restrain overproduction, and help to give steadiness to prices both at home and abroad.

That the wide-reaching and highly developed system of cartels, syndicates, and selling combinations among German industries has provoked thus far so little protest from public opinion or opposition from the Government, is due mainly to the highly perfected, comprehensive, and rigidly enforced German law of corporations, which governs every step in the organization and management of stock companies and makes their business operations from year to year an open record which every interested person may read and understand.

FRANK H. MASON, *Consul-General.*

BERLIN, GERMANY, *February 7, 1905.*

SONNEBERG TOY, CHINA, AND GLASS WARE INDUSTRIES.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

TOY INDUSTRY.

The value of German toys exported to foreign countries last year was close to \$13,700,000, of which the United States, as the principal customer, took about \$4,000,000 worth. Sonneberg is the chief center of the industry.

The annual report for 1904 of the chamber of commerce of the Sonneberg district says:

Hitherto Great Britain has been the principal recipient of the goods exported from this district, but to all appearances it will ere long have to surrender first place to the United States. The powerful trans-Atlantic commonwealth, favored by a rich and increasing population, has been enabled to retain its importing capacity in spite of the pro-

tective character of its customs tariff. The message of the President was all the more disappointing to us, as the hoped-for reform of the tariff and the expected reciprocity treaty was not mentioned therein. This is a consummation "devoutly to be wished" and must be worked for by Germany; of course with prudence, so as not to imperil our trade relations with the United States. The constant care and cultivation of these is a life matter for important branches of German industries and will continue to remain so as long as our products find difficulty in entering the markets of Europe.

The report gives the following scale of daily wages paid to persons working on dolls and doll heads, the hours of labor being ten to ten and one-half: Male adults, 54 to 60 cents; female adults, 36 to 48 cents; male youths, 36 to 48 cents; girls, 24 to 37 cents.

Most of the hands are paid by the piece, the men earning from \$3.60 to \$6, the women from \$1.92 to \$3.60, and the youths from \$1.10 to \$2.40 per week. On piecework some skilled males earn as high as \$7.20 and expert women up to \$4.32 per week.

CHINA AND GLASS WARE.

Next in importance in the Sonneberg district is the manufacture of china ware, consisting chiefly of dinner and tea sets, statuary, painted plates and medallions, articles used for electrical apparatus, stoppers for bottles, marbles for children, and doll heads. The exports of German china ware last year aggregated 32,406 metric tons, valued at \$13,250,000, of which 56 per cent went to the United States.

The manufacture of glassware, especially tubes and bottles for chemical and medicinal uses, glass balls, glass ornaments for Christmas-tree decorations, etc., is important, as is also the manufacture of pearls from fish scales. For all of these goods the United States is a large customer. Slates and slate pencils, masks, and artificial eyes are likewise considerable items in the manufacture and export trade of Sonneberg.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 23, 1905.*

AGRICULTURAL LOSSES OF THE UNITED KINGDOM.

Under date of February 22, 1905, United States Consul-General H. Clay Evans, London, transmits the following article from the London Daily Express on the agricultural losses of the United Kingdom (£1,600,000,000 = \$7,786,400,000) during the last thirty years:

DECREASED FARM REVENUES.

Mr. R. H. Inglis Palgrave, F. R. S., read an important paper before the Royal Statistical Society yesterday, in which he gave estimates of agricultural losses in the United Kingdom during the last thirty years.

Beginning with the decrease in the value of the produce of the land, the lecturer quoted the figures of Mr. R. E. Turnbull, who gave the following estimate of the value of the gross farm revenue of the United Kingdom per annum: 1872 to 1877, £255,000,000 (\$1,240,957,500); 1892 to 1897, £175,000,000 (\$851,657,500).

Taking the years from 1872 to 1903 on this basis, Mr. Palgrave carefully estimates the loss year by year. The following table shows his figures for every fifth year (losses per annum):

Agricultural losses of the United Kingdom per annum each fifth year, 1873 to 1903.

Year.	Losses.	
1873	£259,800,000	\$1,254,816,700
1878	247,200,000	1,202,998,800
1883	224,000,000	1,090,096,000
1888	185,400,000	902,249,100
1893	184,600,000	898,355,900
1898	175,300,000	853,097,450
1903	173,200,000	842,877,800

AGRICULTURE'S TOTAL LOSS.

Had the value of agriculture remained on the level of the years 1872-1877 for the twenty-six years from 1878 to 1903 it would have been £6,630,000,000 (\$32,264,895,000); but it was £4,982,500,000 (\$24,247,336,250), causing a loss of £1,647,500,000 (\$8,017,558,750).

This total, it was shown, was roughly made up as follows:

Diminution in owners' capital, £1,000,000,000 (\$4,866,500,000); diminution in farmers' capital, £100,000,000 (\$486,650,000); diminution in farmers' profits, £500,000,000 (\$2,433,250,000); total, £1,600,000,000 (\$7,786,400,000).

"Judging by present conditions," stated Mr. Palgrave, "I think we may roughly take it that the farmers' profits, and the wages of the numerous laborers who have left the land since 1877, and who are no longer supported out of the produce, would have amounted at least to one-third of the gross price. This is lost to the various interests concerned, and in round figures amounts to £500,000,000 (\$2,433,250,000)."

"A tax on the import of flour," Mr. Palgrave stated, "could not in any way affect the price of bread, as the freight of the flour appears to be more costly than the freight of the wheat, while the increased import of the wheat would incidentally be an advantage to the farmer as well as to the miller. Attention to this point would be a help to the pig industry."

BOND OF UNION NEEDED.

The total cultivated area in the United Kingdom in 1903 was 47,708,000 acres. The number of cattle, sheep, pigs, and horses kept in 1903 was 47,223,000.

After referring to the position of agriculture in the United States, Mr. Palgrave observed:

"It is depressing to turn from the flourishing position of agriculture in another country to the state of matters in our own. I speak as

inhabiting one of the districts of East Anglia, which has suffered most acutely from the drop in the price of produce.

"Several small farmers, tenants of my own, have told me, and I believe correctly, that the maintenance of themselves and of their families at the same rate as that of their laborers is all that they have obtained from their farms last year, and I believe that there are many in a similar position."

Mr. Palgrave concluded with the following significant sentence: "We have become so accustomed to dependence for our food supply on other countries that we overlook the risks which such a condition must involve—the heavy price which we are paying for our manufacturing position—and the opportunity which we still have of making our needs a bond of union with our colonies, and hence a source of strength to our position as a country."

TIN-PLATE INDUSTRY OF THE UNITED KINGDOM.

(From *United States Vice and Deputy Consul Phillips, Cardiff, Wales.*)

Employment in the tin-plate industry has picked up wonderfully since January, 1904, and the demand for labor is quite equal to the supply. At the end of January, 1905, 403 mills were in operation. This compares very favorably with the return of a year ago, which gave a total of 347 mills working. Out of 77 works open, 64 have all their mills (346) in operation, while the remaining 13 have 57 mills working out of a total of 78. The estimated number of persons employed at the 403 mills is 20,150.

In the South Wales, Monmouthshire, and Gloucestershire districts 392 mills were working, as compared with 355 a year ago. The trade remains fairly brisk, but some excitement has been created in the tin-plate circles of South Wales by determined efforts to transfer tin-plate works to Canada. Inducements are being held out to some well-known Welsh manufacturers to erect works at Toronto. At present Canada is one of the best customers for Welsh tin plates.

Tin-plate mills working and idle in the United Kingdom in January, 1904 and 1905.

Item.	Number of works open.	Number of mills—		
		Working.	Not working.	Total.
Works giving full employment.....	64	346	.....	346
Works giving partial employment.....	13	57	21	78
Total at the end of January, 1905.....	77	403	21	424
Corresponding total for January, 1904.....	69	347	42	389

Exports of tin plates and black plates from the United Kingdom in January, 1904 and 1905.

Whither exported.	Tinned plates and tinned sheets (iron or steel).		Black plates for tin- ning (iron or steel).	
	January, 1904.	January, 1905.	January, 1904.	January, 1905.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
United States	5,660	6,448		19
All other countries	22,313	23,480	5,248	4,609
Total	27,973	29,928	5,248	4,628

During January, 1904, there were shipped from the port of Cardiff to the United States tin plates to the value of \$38,934, against \$82,346 during the month of January, 1905, an increase of \$43,412. These tin plates were all shipped to the Standard Oil Company, of New York City.

ERNEST L. PHILLIPS, *Vice and Deputy Consul.*

CARDIFF, WALES, *February 27, 1905.*

MOTORBUSES IN LONDON.

(From United States Consul Hamm, Hull, England.)

Many efforts have been made to adapt the self-propelled stagecoach to metropolitan conditions, and out of them several styles of motors have survived as suited to 'bus purposes. The points claimed in favor of each style are cheapness, trustworthiness, comparative simplicity in handling, and freedom from noise and odor. Each of the great London omnibus companies has adopted its type of motor car, and each is striving to be the first to make the change in locomotive power. The first of the new autocars are now running for hire, and are taking their turn in the long procession of the streets.

London is, without doubt, the chief 'bus-using city of the world. It is estimated that there are about 2,500 omnibuses in that city. To replace them, reckoning two motorbuses to three horse omnibuses, would require over 1,600 autobuses at least, but probably 2,000 will be necessary, for on some of the routes small single-decked vehicles will be used. The field is a very large one, and the replacement of horses by motors will take not months, but years.

The London General Omnibus Company, which, as the greatest of the 'bus companies, had most to lose by any wrong step, deliberated over the idea for some years before it began to change its motive power. It has had two motorbuses running for a few weeks, and the trials have been so satisfactory that the company has decided to turn its 1,600 horse 'buses into motorbuses by mounting them on motor

chassis. Two types of 'buses have been chosen. The speed of one type will be about 11 miles an hour, and it will carry the usual 26 passengers. The other type is a steam car with no roof seats, which is intended to carry 16 passengers, but the police will not allow the two front seats beside the driver and the single seat beside the conductor to be used.

A few figures may be interesting as showing what the motorbus is capable of, and how it compares with other public conveyances. Armed with a stop watch, a representative of one of the London newspapers recently journeyed from Oxford circus to Rye lane, Peckham, by one of the motorbuses. The distance is $5\frac{1}{4}$ miles. The total running time from start to finish was 38 minutes. The total time of twelve stoppages to pick up or set down passengers—delays due to traffic were not timed—amounted to 3 minutes 40 seconds; therefore $5\frac{1}{4}$ miles were covered in $3\frac{1}{4}$ minutes 20 seconds, showing an average speed of slightly under 10 miles an hour. This, of course, means that much of the journey was done at the rate of 12 miles or more per hour. It is instructive to note that the longest stoppage, at Camberwell green, was of 35 seconds; and on three occasions the 'bus stopped, set down or took up passengers, and started again in 5 seconds. From Westminster bridge to Rye lane the 'bus occupied 22 minutes for the $3\frac{1}{4}$ miles, and the stoppages were 1 minute 50 seconds. On the Westminster bridge road it overtook one horse-drawn 'bus, and arrived at the terminus at the same moment as another. As the horsed 'buses run at 5-minute intervals, the motorbus gained that time in about 3 miles. In the Walworth road it passed an electric tramcar, and another reached the end of the journey just ahead of it, showing a considerable gain in this case also on the part of the motorbus.

The representative traveled back to Westminster by electric tram for the sake of comparison. The tram took 30 minutes to the motorbus's 22 minutes, but it made sixteen stoppages to the 'bus's six. The whole delay through stoppage was 3 minutes 43 seconds against the bus's 1 minute 50 seconds. The tramcar's stops were usually much briefer than those of the 'bus, two lasting only 3 seconds. Although the tramcar took 26 minutes 17 seconds for the $3\frac{1}{4}$ miles, as compared with the 'bus's 20 minutes 10 seconds, the maximum speed attained was higher, probably 15 miles an hour. But the tramcar was constantly delayed by traffic on the lines. This is the reason why motorbuses will inevitably prove faster than tramcars. The 'buses, indeed, would travel more quickly over the journey if they were not frequently obstructed by stationary tramcars in the middle of the road. These figures are useful as illustrating how formidable the motorbus may prove to the tramcar.

A favorite vehicle is a double-decked omnibus, tastefully finished in

blue and yellow, and propelled by the Straker and Squire steam engine. The tare weight of this 'bus is 2 tons 10 hundredweight. Single rubber solid tires are fitted to the front wheels, while twin tires are fitted to the rear wheels. The vehicle is finely finished inside, and is constructed to carry 34 passengers, 16 inside and 18 outside. The car of this pattern which recently successfully accomplished the automobile club reliability trial of 2,000 miles was on view at the recent motor-car exhibition in London, and although the tires were perfectly sound, they showed that they had not been spared in the test. In that trial the total time occupied in stoppages was 38 minutes, and the middle of the trial, 1,032½ miles, had been covered without an involuntary stop. The record would have been 1,327 miles but for a check of 1 second only through missing gear. The gears and the Sirdar tires were found to be in very fair condition at the end of the trial. Interesting points in the design of the car are the operation of the valves from an overhead lay shaft, and the employment of a volute spring at the rear end of the distance rod to absorb the driving shocks.

Another style of motorbus shown at the London exhibition was of 20 horsepower, carried (inside and outside) 34 passengers, and had a speed of 12 miles an hour. The car looked a little unwieldy. The wheels were set farther forward than in ordinary vehicles, which gave it a somewhat odd appearance. Each motorbus, it is estimated, will carry about 1,000 passengers per day, and make a journey of 5¼ miles in less than 40 minutes, including all stops. One double-decked 'bus exhibited was capable of seating 16 persons inside and 18 outside, and 2 on the front seat with the driver. The interior of this 'bus was extremely neat and pleasing, nothing being omitted to insure comfort and ease for the passengers. Acetylene lamps, electric bells, and a smoking compartment, etc., were provided for two special vehicles shown, one of these being a double decker and the other a single decker. The latter was capable of carrying 16 passengers inside and 2 in the smoking compartment; also 15 hundredweight (1,683 pounds) of luggage on top. A specially designed body was fitted to the double decker. It was finished outside in natural wood, and the windows were of thick, beveled plate glass. Electric bells and racks for light articles were provided, and the seating accommodations and comforts for passengers were pronounced excellent. Change of speed is effected by a lever, in this case placed on the right hand of the driver, and not central, as in the usual public-service vehicle.

One of the chief points in favor of the motorbus is the additional street room gained through the displacement of the horse. Another is the saving to the pavements. There will be no pounding of the road surfaces by hammering hoofs, and scarcely any grinding of them by iron-shod tires. This will make it possible to keep the main

thoroughfares in good condition in nearly all weathers. Something, too, should be accomplished to relieve the congestion of street traffic, which tends to render life in great cities more uncomfortable. The car carrying 40 or 50 passengers will occupy less space than an omnibus with its pair of horses. It will be handled more easily, and it will move quicker.

The utilitarianism of the motor is another point in its favor. It readily adapts itself to any conditions. Some of the railways in England are running single motor carriages as cheaper than steam locomotive drawn carriages for certain purposes. Others again are experimenting successfully with motor services on the roads in out-of-the-way places to act as feeders to their main lines.

All this is said in favor of motorbuses. But, on the other hand, it is urged that if, in the haste to change, carelessly built motorbuses should be placed on the street the attempt will end in failure. Many efforts are being made to adapt old 'buses to the new style. These may cause trouble. The wear and tear on the running gear of a motorbus for city traffic, on account of stoppings, is much greater than that on a heavy wagon which runs without arrest from point to point.

Two of the directors of the London Motor Omnibus Company, who have had experience in the working of motor omnibuses, have prepared an estimate of the profits to be derived from the company's business. They consider that each motor omnibus of the company should have a minimum average run of 90 miles per day and should earn a net profit of at least 4 cents per mile, or \$3.60 per day, or \$21.60 per week of six days. In arriving at this estimate of profit they have taken into account the conditions under which a company would work in London, and they are of opinion that their estimate of 4 cents per mile per omnibus should increase as the company's business develops, and have also had regard for the fact that the Birmingham company is actually earning an average of 6 cents per mile on an average run for each omnibus of 90 miles per day.

Another estimate, of a different character, appears in the *London Electrician*. It is by an expert, and is as follows:

The working cost of a motor omnibus, including repairs, is from 23 to 24 cents per car mile, and its carrying capacity 34 passengers. The working cost of an electric tramcar is from 10 to 12 cents per car mile, and its carrying capacity from 50 to 70 passengers. The much greater margin between working expenses and earning power is far more than sufficient to cover the disbursements put upon the tramway owner for capital charges, track maintenance, paving maintenance, and rates whenever anything approaching a frequent service is demanded.

Other countries are adopting the motorbus, as the following shows: The *Italian Gazzetta Ufficiale* of February 13 publishes a law authorizing the minister of public works to grant subsidies for the establish-

ment and working of automobile services in districts which are not served by railways and tramways. The annual subsidy shall not exceed \$121.66 per kilometer (0.6214 mile), for a service carrying passengers, luggage, and goods; \$77.86 per kilometer for a service carrying only passengers, luggage, and small agricultural produce; and \$38.93 per kilometer for a service carrying only goods. The subsidy shall be granted for a term of not more than ten years, which term may be renewed.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *March 3, 1905.*

RAILWAY COMBINATION IN COSTA RICA.

(From United States Consul Caldwell, San José, Costa Rica.)

A contract was recently signed in London by the representatives of the Costa Rica Railway, an English company, and of the Northern Railroad of Costa Rica, an American company, by the terms of which the Northern Railroad Company leases the Costa Rica Railway. The lease is for the remainder of the term of ninety-nine years stipulated in the original concession to the Costa Rica Railway, or for over sixty years from the present date. The Northern company will assume control July 1, 1905.

The Costa Rica Railway runs from Alajuela through San José, Cartago, Juan Viñas, and Turrialba to the Atlantic port of Limon. The main line, Alajuela to Limon, is 115½ miles in length. A branch, known as the old line, runs for about 20 miles into the banana region. This, with various short spurs to particular farms, makes a mileage in branch lines of 35½ miles. The road has about 650 employees. The Northern road runs from Limon out among the banana farms, and has 83 miles of main line and sidings and about 750 employees.

Both roads are well equipped with rolling stock. The united lines will have the use of the two piers at Limon, one now owned by the Costa Rica company and one built by the Northern company, the property of the Government, but granted to the railroad for a term of years.

JOHN C. CALDWELL, *Consul.*

SAN JOSÉ, COSTA RICA, *February 4, 1905.*

WATERS ADJACENT TO CANADIAN-UNITED STATES BOUNDARY LINE.

(From United States Consul-General Holloway Halifax, Nova Scotia)

The instructions to the Canadian section of the international commission to investigate and report upon the conditions and uses of the waters adjacent to the boundary line between the United States and

Canada have been framed by the Dominion government. Among the subjects that may come up for consideration by this commission are the following:

1. The proposed diversion southward by the Minnesota Canal and Power Company, of Duluth, of certain waters in the State of Minnesota that now flow north into the Rainy River and the Lake of the Woods.

2. The diversion about a mile and a half east of the town of Sault Ste. Marie of part of the waters of the St. Mary River into the Hay Canal entirely through American territory. The river St. Mary now forms part of the boundary between the United States and Canada, and the waters of the river are clearly international. Canadian vessels, of necessity, are using the Hay Canal, but no treaty has been made confirming their right.

3. Inquiry into the effect of the construction of the Chicago Canal on the levels of lakes Huron and Erie.

4. The building of a dam and other obstructions on the St. John River, flowing through the State of Maine into New Brunswick, contrary to the express stipulation of the Ashburton treaty.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *March 9, 1905.*

AMERICAN PACKING HOUSES FOR BRAZIL.

(*From United States Consul-General Seeger, Rio de Janeiro, Brazil.*)

I desire to call attention to the following communication received by me from Mr. L. C. Irvine, a prominent and well-informed American merchant of Rio de Janeiro, who has resided here for many years, and whose opinions on Brazilian commercial matters are absolutely reliable. I fully indorse what he says about the pork-packing and other meat industries here.

MR. IRVINE TO CONSUL-GENERAL SEEGER.

I beg to submit in writing, as you request, the remarks I made to you in conversation about the possibilities for the meat-packing industry in Brazil. I think the time has come when some of the large manufacturing packers of pork, lard, etc., might establish factories here with great profit to themselves. A few years ago coffee was so remunerative to the planters that they neglected hog raising, and a great deal of pork, lard, etc., was imported. Now, however, coffee prices have obliged them to devote attention to other branches, and the importation has been reduced to almost nothing. Hogs are easily raised here and corn grows very abundantly and easily. An American factory and methods ought to result in a large export business from Brazil. It would pay; and it even might be advisable to raise the hogs, as a more certain supply of raw material could thus be insured. In

Rio Grande do Sul there are native factories, I believe, but my idea is for Minas and Sao Paulo. Practically no hams or bacon are cured in the country, and, owing to heavy duties, both these articles bring high prices; hence there is a large local market to be developed. I have heard of one planter who does his own curing. Two Englishmen started a factory for hams up in Minas, but the State government put on such heavy duties that the business was abandoned. I feel sure that a foreign company wishing to establish such an enterprise on a large scale could make its own terms beforehand about these matters, and a bright future would await it. I think it would be well worth while to send out a competent man to look over the field. Brazil stands strongly committed to a high protective tariff, and there can be no doubt that a big American company entering the trade could easily dominate the situation. Brazil is already a large cattle-producing country, and I believe that in a few years the immense areas suitable for grazing in the interior will be made available. Brazil will then be in a position to supply Europe with cheap beef, especially as the time is approaching when the United States will export but little.

EUGENE SEEGER, *Consul-General.*

RIO DE JANEIRO, BRAZIL, *February 22, 1905.*

FOREIGN TOBACCO IN MEXICO.

(*From United States Consul Le Roy, Durango, Mexico.*)

Mexico imports considerable tobacco in the leaf, as well as in the manufactured form, principally Cuban cigars and cigarettes, American cigarettes and pipe and chewing tobaccos, and some French and German cigars and Turkish and Egyptian cigarettes. For the fiscal year ended June 30, 1904, the importation of Virginia leaf tobacco amounted to 2,468,773 pounds, valued at \$147,131 in gold; the importation of all other tobacco in leaf was valued at \$32,896 in gold. Of this "other leaf tobacco" the United States also contributed 4,675 pounds. The Netherlands and Cuba contributed 17,332 and 15,890 pounds, respectively, and Sumatra and Germany were next in order, with small quantities from India, Belgium, Turkey, Persia, and even China, part of the tobacco from various sources coming through Great Britain. Higher duties were placed on Virginia leaf last year, and this operates somewhat to change the course of the trade. In general, however, the importation of leaf tobacco into Mexico is increasing, partly through the increased consumption of foreign tobaccos, but principally through the demand for foreign leaf to blend with the native leaf in the manufacture of cigars.

JAMES A. LE ROY, *Consul.*

DURANGO, MEXICO, *February 6, 1905.*

DESTRUCTION OF CANADIAN GAME.

(From United States Consul Worman, Three Rivers, Quebec.)

Complaints are multiplying against the wholesale destruction of game and fish in the Dominion, regardless of legal restrictions. The people of the province of Quebec say that the law for the closed season is not observed, and that in all seasons partridges are shipped to the United States.

A gentleman who spent some time recently in the northern portion of Argenteuil County inspecting timber says that a few days ago he visited a wooded tract that he had gone over before and found teeming with game. On this last visit, however, he covered 8 miles of the tract, but saw no living thing. The partridges have disappeared, having been killed by the thousands to meet the needs of the American market, while the deer have been stalked with dogs, battued in droves, and killed, skinned, and buried. The people who destroy this fine game do it simply for commercial purposes. The deerskins are all that is wanted, the remainder being buried to prevent prosecution. The settlers are in sympathy with the law, but they dare not express themselves to that effect through fear of the consequences.

The superintendent of fish and game is doing all that he can under the system which now prevails. He is assisted, to a large extent, by the fish and game protection societies, but he lacks efficient support. The game wardens get only sums ranging from \$25 to \$50 a year, which is not sufficient salary to secure men who would save forests and streams from being devastated.

The fish in the lakes are also sadly in need of protection. In some districts where the lakes teemed with trout a few years ago the fish have disappeared almost entirely. Mills have been built on the borders of the lakes, and sawdust is dumped into them, so that the fish are driven away.

JAMES H. WORMAN, *Consul.*

THREE RIVERS, QUEBEC, *March 3, 1905.*

MOTOR FIRE ENGINE IN LONDON.

(From United States Consul Hamm, Hull, England.)

London has shown less interest in the motor fire engine than in the motorbus. Steam-propelled fire engines are in use in Liverpool, Brighton, Plymouth, Portsmouth, and other English cities, and have given reasonable satisfaction. But London has until the present time tried only one adapted machine of this kind. Now, however, it claims to have the largest and most powerful motor fire engine yet built. It is of 50 horsepower and is capable of throwing 500 gallons of water a minute to a height of 150 feet. It is propelled by a steam water-tube

boiler situated between the rear wheels and heated by a petroleum burner of new design, in which the fuel is sprayed into the furnace. This gives a very hot fire, which can be regulated with nicety. In front of the boiler is the engine, with a pair of inverted cylinders driving two direct, double acting pumps. The pumps can be disconnected from the engines in a few seconds, and by throwing into gear a pinion wheel the motor is made to drive a countershaft, from which the power is transmitted by chains to the wheels. Thus the same motor takes the vehicle to the fire and on arrival pumps the water. The engine carries enough petroleum for a 40-mile journey, and as a fresh supply of fuel can always be obtained at the scene of a fire the machine can keep going for a week if necessary. The engine is steered by a hand wheel. It is fitted with single solid rubber tires and "non-skids," as the risk of side slip on the roads of the metropolis must be taken into account.

A demonstration of this motor fire-engine's capability was made a few days ago. First of all it was run up Blackheath hill. This has a gradient of 1 foot in 9 or 10 feet at the steepest part, and horsed fire engines go up at a walk, with the men on foot. The motor engine went up with a full load of 8 men, hose, and appliances at the rate of 15 miles an hour under a full head of steam, and was gathering speed on the stiffest part of the climb. Its suction and throwing powers were also shown to be excellent.

This motor fire engine will be put into service at once. It is not claimed that it will save time in the "turn out," although only a minute is necessary to get up steam enough for running. A small gas jet is kept burning under the boiler while it is standing in the station, so as to maintain the water fairly hot and give sufficient steam to start the petroleum burner at full power, when a good pressure in the boiler quickly follows. For country districts where journeys to fires are often long, the motor fire engine must effect a great saving in time. To small places which can not afford to keep horses always ready for their engine, in view of the rarity of fires, the motor engine, which costs little when it is not running, will be a boon.

WALTER C. HAMM, *Consul*.

HULL, ENGLAND, *March 3, 1905.*

STEAMSHIP SERVICE WITH LIBERIA.

(From United States Consul-General Lyon, Monrovia, Liberia.)

I transmit the record kept in this office of the arrival of foreign steamships at the port of Monrovia in the month of January as information that may facilitate the movements of travelers in this direction. It discloses the absence of American vessels from these waters, which is very much to be regretted. The proposed line of

steamers by the New York and Liberia Steamship Company, an American enterprise, will be hailed with delight by most people in this Republic.

Arrival of steamships at Monrovia, Liberia, in the month of January, 1905.

Steamship.	Nationality.	Date.
Adolph W.	German	1
Marc Frassiniet	French	2
Edward Bohlen	German	2
Prinz Regent	do	4
Gretchen Bohlen	do	8
Kurt W.	do	8
Benin	English	9
America W.	German	9
Batanga	English	10
Leopoldville	Belgian	11
Warri	English	11
Gretchen Bohlen	German	12
Ilaro	do	13
Mandingo.	do	14
Lucia W.	do	14
Angola	English	16
Paul	German	16
Luther Bohlen	do	17
Ella W.	do	17
Elenora W.	do	17
Helene W.	do	18
Pres. Barclay	do	19
Jebba	English	21
Myanga	do	22
Tibet.	French	23
Lirbeck	German	23
Lucie W.	do	23
Benguela	English	24
Pres. Barclay	German	24
Kahliff	do	26
Loanda	English	26
Goldfneh	do	27
Pres. Barclay	German	27
Ascle W.	do	28
Sapele	English	30

The arrivals according to nationality were: German, 22; English, 10; French, 2; Belgian, 1. There has been an increase of four vessels since about this time in 1901 when there were 31 vessels in the service, which indicates an increase in the volume of trade between Liberia and the countries represented.

ERNEST LYON, *Consul-General.*

MONROVIA, LIBERIA, *February 15, 1905.*

COPPER COINAGE OF CHINA.

(From United States Consul Anderson, Hangchau, China.)

There is considerable speculation in some circles in this province as to what is to be the result of the policy of the provincial government with respect to the shipment of the copper 10-cash or "1-cent" pieces out of the province. The shipment is really illegal, according to imperial authority, but at the present time the coins are being shipped from Hangchau to Shanghai at the rate of 20,000,000 a month, and the rate is increasing. The present mint is still turning out about 300,000

pieces a day and the new mint, which is to be ready by the middle of May, will turn out at least 2,000,000 pieces more a day. As I have reported heretofore, the authorities are finding this coinage very profitable. One hundred of these coins weigh 24 ounces and a small fraction of an ounce, and the problem in profit is solved by figuring out how a pound and a half of copper, at from 10 to 20 cents a pound, becomes about \$1.12 Mexican, or 50 cents gold, allowing for the expenses of coinage in a plant which requires no great amount of power and can secure all the labor it needs at from \$4 to \$8 gold a month.

The demand for the coins all over China is increasing. They are still issued from the mint at 90 per dollar (Mexican) and pass current among the people at from 95 to 97. The demand in Shanghai for the coins minted here really represents a demand from other cities, for while Hangchau is pouring the coins into Shanghai, the latter port in the September quarter of 1904 sent \$535,583 gold worth of the coins to Chifu, and \$140,487 to Kiaochau, while Hankau and other points secured some. The demand for the coins among the cities of this province which the mints here are supposed to serve is very strong. They are rapidly driving the old cash out of circulation.

One phase of this copper coinage matter is very important. It will be almost an impossibility to establish a new system of money in China which is not based upon these 10-cash or 1-cent pieces.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *February 2, 1905.*

AMERICAN COTTON GOODS IN PERSIA.

(*From United States Consul-General Skinner, Marseille, France.*)

The Department's recent efforts to secure information in regard to new markets for American cotton goods have brought me into contact with certain Persian Gulf firms, whose correspondence now promises to bring about practical results. The following letter, dated January 30, 1905, which I have received from Messrs. Zeytoon & Co., of Bushire, demonstrates the existence of an important neutral market in which American manufacturers are virtually unknown:

Allow me to thank you for your favors of November 16 and December 19 and 31. You will be very glad to hear that we are already in communication with Messrs. Suffern & Co., and we expect to put some business through. We have only this week received quotations from them for one of their standards. Our client has made a counter offer, and as the difference is small, about 2 per cent, we hope that Messrs. Suffern & Co. will see their way to make a concession. I may mention also that the width of the cloth selected is 36 inches. Since this width is the American standard, we anticipate a brisk competition later

on by several firms on this side and manufacturers on the other. I have also received printed matter from several other American firms, to which I shall refer later on, in case of need.

ROBERT P. SKINNER, *Consul-General*.

MARSEILLE, FRANCE, *February 21, 1905.*

POTATO BLIGHT.

(*From United States Consul-General Dillingham, Auckland, New Zealand.*)

In a number of districts throughout the colony *Phytophthora infestana* has manifested itself in quite a serious form, and the governor, in exercise of the powers conferred upon him by "the orchard and garden pests act, 1903," and by and with the consent and advice of the executive council of the colony, has gazetted the disease, and prohibited the transportation of diseased potatoes from certain parts of the colony into other parts, because it is generally believed that diseased potatoes or potato plants, or parts thereof, brought from the affected districts would be likely to spread the disease. The blight had made quite a good deal of headway before it was correctly diagnosed, but it is now being gradually checked by the use of a spray of solution of bluestone or copper sulphate, and it will doubtless be eradicated within the next six or eight months. In consequence of the blight, potatoes are scarce and prices have advanced sharply. At this writing new potatoes are being shipped to this colony from Tasmania (one of the States of the Australian Commonwealth), a distance of about 2,500 miles from Auckland, and are quoted at 13s. 6d. per hundredweight (\$3.28 per 112 pounds). I believe that California potatoes would find a profitable market in New Zealand at the present time.

F. DILLINGHAM, *Consul-General*.

AUCKLAND, NEW ZEALAND, *February 7, 1905.*

SWEDEN-NORWAY-ARGENTINA STEAMSHIP LINE.

(*From United States Consul-General Bordewich, Christiania, Norway.*)

A new steamship line has recently been established between Sweden and Norway and Argentina. It is owned and controlled by a Swedish syndicate, the Johnson Line, and is called the "Skandinavien-Argentina Line of Steamers." The run as at present arranged is between Buenos Aires and the Scandinavian ports of Christiania, Malmo, and Stockholm. Three steamers of 6,700, 5,500, and 6,500 tons, respectively, are employed. The first vessel arrived here to-day direct from Buenos Aires, and brought for delivery at this port a 1,400-ton cargo, consisting principally of linseed, flour, and corn. From here the ship goes to Sweden. The next ship is expected in March and the following in April.

This direct connection is likely to increase the trade with Argentina to the detriment of American trade with the Scandinavian countries. The trade between Norway and Argentina has heretofore been insignificant. In 1903 it amounted to about \$30,000 worth of wood pulp exported and \$74,000 worth of wheat imported.

HENRY BORDEWICH, *Consul-General.*

CHRISTIANIA, NORWAY, *February 23, 1905.*

SOUTH AFRICAN DIAMOND TRADE.

Under date of December 28, 1904, United States Consul Hill, Amsterdam, Netherlands, transmits the following review from the London Financial News of November 21, 1904, of the report of the De Beers Consolidated Company for the year ended June 30, 1904. The values have been reduced from British to American currency in the Bureau of Statistics:

In some respects the report and accounts of the De Beers Consolidated Mines for the year ended June 30, 1904, which Sir Lewis Michell had to present to the shareholders at their meeting in Kimberley, were of a less satisfactory character than those dealing with the results of the preceding year's operations. The one really adverse feature is the somewhat heavy decrease in the yield of the "blue" dealt with. As recently as 1897 the average was 92 carats per 100 loads treated; last year it was no more than 54 carats. Put in another way, it may be stated that whereas a few years ago each load of "blue" yielded an average of 36s. [\$8.76], in the past year, notwithstanding an increased selling price, the average fell to 26s. 7d. [\$6.41] per load. On the whole, however, the accounts show that the company is in a prosperous condition and that the shareholders have every reason to look forward with confidence to the future of their vast properties. During the twelve months the diamonds produced realized £4,918,568 [\$23,936,211], while the total expenditure amounted to £2,936,798 [\$14,291,927], leaving a profit of £1,981,770 [\$9,644,284]. The expenditure included a sum of £567,513 [\$2,762,762] for depreciation written off, against £738,161 [\$3,592,260] in respect of 1902-3, £176,200 [\$857,477] for debenture redemption, in contrast with £167,900 [\$817,085], and last year's allocation of £100,000 [\$486,650] to the life governors' interest purchase account is repeated. The main features of the company's results for the past five years ended June 30, are summarized in the subjoined table.

Sale of diamonds, divisible profit, and amount of dividend of De Beers Consolidated Mines in 1900 to 1904.

Year.	Sale of diamonds.		Divisible profit.		Amount of dividend.	
1900	£2,070,413	\$10,075,665	£581,148	\$2,827,967	£1,579,582	\$7,687,083
1901	4,628,845	22,526,274	2,687,999	13,081,147	1,925,000	9,368,012
1902	4,687,194	22,810,280	2,282,938	11,109,918	2,175,000	10,584,638
1903	5,241,172	25,506,163	2,423,076	11,791,899	2,175,000	10,584,638
1904	4,918,568	23,936,211	1,981,770	9,644,284	2,175,000	10,584,638

Our readers may be reminded that in 1902 it was decided to extinguish the life governors' rights and to rearrange the capital account, the holders of the old ordinary shares of £5 [\$24.33] each being given equal amounts of preferred and deferred shares of £2 10s [\$12.17] each, the former ranking for dividends of 40 per cent per annum before the latter participate, while the preference holders are entitled to priority of the deferred shares to the extent of £20 [\$97.33] per share in the event of a winding up. In February, 1902, the old shareholders were paid a bonus of 10 per cent in cash, in addition to the half-yearly dividend of 20 per cent, and were given one new deferred share in respect of each 16 ordinary shares held. For the past two financial years the deferred distributions have amounted to 55 per per cent, the share capital standing at £2,000,000 [\$9,733.200] of preferred, and £2,500,000 [\$12,166,450] of deferred shares.

From the above table it will be seen that, while the sales of diamonds in the past year realized about £322,000 [\$1,557,013] less than in the preceding twelve months, the reduction in the divisible profits amounted to £441,000 [\$2,146,127]. As, however, a sum of £200,000 [\$973,300] reserved last year has been written back, the balance carried forward is increased from £746,764 to £837,961 [\$3,634,127 to \$4,077,937]. The report states that the contract with the diamond syndicate is working most satisfactorily. The existing contract, which was entered into into 1901 and extends until July, 1906, provides for the syndicate's profits being shared with the De Beers Company. At the annual meeting held a year ago it was stated by Mr. Wernher that in 1883 the average price obtained for Kimberley diamonds was 22s. 8d. [\$5.52] per carat; but seven years later the average was 32s. 6d. [\$7.95]. For some years before the Boer war the average was not much over 27s. [\$6.57] per carat; but in 1900 it rose to 35s. 10d. [\$8.72], and in 1903 it was 42s. 5d. [\$10.33], while for the past twelve months it was 49s. [\$11.92] per carat over the whole of the production, though the Premier (or Wesselton) average was 34s. 10d. [\$8.47], and that of the Bulfontein output only 29s. 8d. [\$7.22]. The De Beers and Kimberley mines, from which the great bulk of the diamonds is being obtained, gave the very satisfactory average of close upon 49s. [\$11.92] per carat, or over 28s. 7d. [\$6.96] per load of "blue ground" dealt with; yet the report mentions that the De Beers and Kimberley "blue" (amounting to 2,213,499 loads) has been taken into the accounts at 1s. 6d. [61 cents] per load, and the remainder (1,769,338 loads) at 1s. [24 cents] per load. It will thus be seen that these holdings constitute very much more valuable assets than would be gathered from the sum at which they are entered in the balance sheet. Since the amalgamation of the companies now forming the De Beers Consolidated Mines was carried through by Mr. Cecil Rhodes and Mr. "Barney" Barnato, the Bulfontein property has only been worked to a small extent, and the Dutoitspan has contributed only a very small proportion of the company's output; but the lately issued report of the general manager shows that considerable progress is being made in the development of the Dutoitspan mine, and it is confidently expected that during the succeeding year the operations there will be very extensive, and that the mine will become an important producing factor.

It is clear that the output of diamonds by the De Beers Company will go on for an indefinite period, and that it could at any time materially increase its supplies if market conditions rendered such a policy either profitable or desirable. It was often predicted in the early days

of the amalgamation that the advance brought about by the De Beers Company in the price of diamonds would lessen the demand, but so far from the predictions having been fulfilled, the demand has constantly increased, especially in the United States, and in these circumstances the alarm which spreads from time to time that new producers are about to interfere with the prosperity of the De Beers Company need not greatly disconcert the investors who are interested in the world's leading diamond-mining undertaking.

GOLD PRODUCTION OF AUSTRALASIA IN 1904.

(From United States Consul-General Bray, Melbourne, Victoria.)

The gold production of Australasia in 1904 was 4,194,822 fine ounces, valued at \$86,760,000, against 4,296,237 fine ounces of a value of \$88,857,500 in 1903. There is thus a decrease of 101,415 fine ounces in quantity and \$2,097,500 in value in 1904. The falling off has been principally in western Australia where a decrease of 81,571 ounces occurred, and in Queensland where the decrease was 43,629 ounces. The following is a statement in fine ounces of the production in each State of the Commonwealth and New Zealand in the years 1903 and 1904:

Production of gold in the several Australian States and in New Zealand in 1903 and 1904.

State.	1903.	1904.
	<i>Fine ounces.</i>	<i>Fine ounces.</i>
Victoria.....	764,822	771,298
New South Wales.....	254,260	269,817
Queensland.....	668,546	624,917
South Australia.....	22,269	17,913
Western Australia.....	2,064,801	1,983,280
Tasmania.....	59,891	60,000
Total Commonwealth.....	3,884,589	3,727,175
New Zealand.....	461,648	467,647
Total.....	4,296,237	4,194,822

Part of the gold produced has been shipped away in bullion as it came from the mines or the smelting works, but nearly three-fourths of the production in 1904 has been taken to the three Australian branches of the royal mint of England, the receipts at each branch, stated in fine ounces, in 1903 and 1904, being as follows:

Receipts of Australian gold at the Australian branches of the royal mint of England in 1903 and 1904.

Mints.	1903.	1904.
	<i>Fine ounces.</i>	<i>Fine ounces.</i>
Melbourne.....	1,015,399	991,775
Sydney.....	723,341	856,561
Perth.....	1,218,290	1,168,079
Total.....	2,952,030	3,016,415

Issues of coin and bullion from Australian mints in 1903 and 1904.

Mints.	1903.		1904.	
COIN.				
Melbourne.....	£3, 521, 780	\$17, 138, 743	£3, 743, 697	\$18, 219, 675
Sydney.....	2, 921, 500	14, 217, 480	2, 986, 000	14, 531, 369
Perth.....	4, 674, 783	22, 749, 832	4, 536, 771	22, 078, 196
Total coin	11, 118, 063	54, 106, 055	11, 266, 668	54, 829, 240
BULLION.				
Melbourne.....	792, 594	3, 857, 159	479, 131	2, 331, 690
Sydney.....	159, 626	776, 819	634, 063	3, 086, 522
Perth.....	489, 558	2, 382, 410	424, 415	2, 065, 415
Total bullion	1, 441, 773	7, 016, 388	1, 537, 579	7, 483, 627
Total coin and bullion.....	12, 559, 836	61, 112, 443	12, 804, 247	62, 311, 867

JOHN P. BRAY, *Consul-General.*MELBOURNE, VICTORIA, *January 20, 1905.***FOREIGN COMMERCE OF THE PRINCIPAL PORTS OF THE WORLD.**

The following table, compiled in the Bureau of Statistics, Department of Commerce and Labor, from latest available official sources, shows the foreign trade of the principal seaports of the world. In the case of the United States ports both the land and sea borne commerce is given; in the case of some foreign ports the sea-borne commerce only is stated. The value of the transit trade, whenever available, has been included.

Value of commerce of principal ports of the world.

Ports.	Year.	Imports.	Exports.	Total commerce.
EUROPE.				
<i>Great Britain.</i>				
London, including Queensborough	1903	\$842,547,306	\$462,206,875	\$1,304,754,181
Liverpool	1903	627,915,463	557,598,986	1,185,514,449
Hull	1903	158,653,074	97,597,239	256,250,313
Glasgow	1903	70,119,734	108,394,005	178,513,739
Southampton	1903	76,599,659	70,990,449	147,590,108
Manchester, including Runcorn	1903	98,688,995	45,244,167	143,933,162
Harwich	1903	94,433,941	22,810,512	117,244,453
Grimsby	1903	49,387,339	49,877,523	99,264,862
Leith	1903	67,095,366	13,482,299	80,577,665
Tyne ports	1903	48,916,122	37,346,699	86,262,821
Bristol	1903	62,052,849	10,486,963	72,539,812
Cardiff	1903	20,984,470	50,362,868	71,347,338
<i>Germany.</i>				
Hamburg	1903	£550,751,000	£430,765,000	£981,516,000
Bremen	1903	£198,518,000	£98,339,000	£296,857,000
<i>France.</i>				
Marseille	1903	248,869,000	182,683,000	431,552,000
Havre	1903	213,619,000	150,524,000	364,143,000
Dunkirk	1903	118,689,000	25,361,000	144,050,000
Bordeaux	1903	48,850,000	60,046,000	108,896,000

a By sea only.

Value of commerce of principal ports of the world.—Continued.

Ports.	Year.	Imports.	Exports.	Total commerce.
EUROPE—continued.				
<i>Austria-Hungary.</i>				
Trieste	1903	\$60,553,000	\$40,642,000	\$100,995,000
<i>Belgium.</i>				
Antwerp	1903	388,174,000	347,940,000	736,114,000
<i>Russia.</i>				
St. Petersburg	1902	50,871,000	30,836,000	81,207,000
Odesa	1902	31,779,000	59,693,000	91,472,000
Riga	1902	19,311,000	43,226,000	62,537,000
<i>Spain.</i>				
Barcelona	1903	60,728,000	21,870,000	82,598,000
Bilbao	1903	15,109,000	16,431,000	31,540,000
AMERICA.				
<i>United States.^a</i>				
New York, N. Y.	1904	600,171,033	506,808,013	1,106,979,046
New Orleans, La.	1904	34,036,516	148,596,108	182,631,619
Boston and Charlestown, Mass.	1904	80,657,697	89,845,772	170,503,469
Galveston Tex.	1904	1,847,646	145,316,457	147,164,103
Philadelphia, Pa.	1904	53,590,106	71,393,254	125,283,360
Baltimore, Md.	1904	20,345,788	82,836,164	103,181,952
San Francisco, Cal.	1904	37,542,978	32,547,181	70,090,159
Savannah, Ga.	1904	924,061	53,770,382	54,694,443
Puget Sound, Wash.	1904	11,285,096	22,729,580	34,014,676
<i>Canada.</i>				
Montreal	1904	80,561,275	67,844,729	148,406,004
<i>Argentina.</i>				
Buenos Aires	1903	107,494,000	109,803,000	217,297,000
<i>Brazil.</i>				
Santos	1902	21,857,000	67,420,000	89,277,000
Rio de Janeiro	1902	49,500,000	32,515,000	82,015,000
<i>Chile.</i>				
Valparaiso	1903	29,247,000	4,440,000	33,687,000
ASIA.				
<i>China.</i>				
Shanghai	1903	118,989,000	69,150,000	188,139,000
<i>Japan.</i>				
Yokohama	1903	55,218,000	72,997,000	128,215,000
Kobe	1903	76,958,000	45,078,000	122,036,000
<i>British Colonies.</i>				
Singapore	1902	b 116,606,000	b 97,363,000	b 213,968,000
Calcutta	1903-4	c 108,661,000	c 185,745,000	c 294,406,000
Bombay	1903-4	c 97,061,000	c 158,211,000	c 255,272,000
AFRICA.				
Alexandria	1903	73,427,000	91,720,000	165,147,000
Cape Town	1903	70,061,000	62,914,000	132,975,000
AUSTRALIA.				
Melbourne	1902	76,454,000	78,606,000	155,060,000
Sydney	1902	104,431,000	84,529,000	188,960,000

^a Year ending June 30.^b Including intersettlement commerce.^c Trade of chief port only, exclusive of Government stores.

JAPAN ROYAL MAIL STEAMSHIP COMPANY.

(From United States Consul-General Bray, Melbourne, Australia.)

The accounts of the Nippon Yusen Kaisha (Japan Royal Mail Steamship Company, Limited) for the half year ended September 30, 1904, show that the gross profits amounted to \$1,490,570, from which are deducted depreciation, \$375,520, transfer to insurance fund, \$174,330, and transfer to ships' structural repair fund, \$225,320, leaving a balance of \$715,400. To this is added the balance brought forward, \$503,180, making a total of \$1,218,580. Dividend and special dividend, together, at the rate of 12 per cent per annum, absorb \$660,000, an addition of \$35,770 is made to the reserve fund, and, after directors' and auditors' fees are provided for, a balance of \$487,130 is carried forward. The company has a capital of \$11,000,000 in shares, and has issued debentures for \$400,000. The amount of the insurance fund is \$1,266,035; of the ships' structural repairs fund, \$1,442,955; of the dividend equalization funds, \$1,650,000; of the reserve fund, \$993,755; of the fund for extension of services and improvement of the fleet, \$1,750,000; and of the pension fund, \$141,500. The fleet is valued at \$12,294,065. The number of steamers owned by the company is 70, their aggregate tonnage being 236,256 tons, and another steamer of 7,200 gross tons is building. This company has a line of steamers running between Yokohama and Melbourne via Manila.

JOHN P. BRAY, *Consul-General*.

MELBOURNE, AUSTRALIA, *February 10, 1905.*

MINERAL PRODUCTION OF THE TRANSVAAL IN 1904.

Under date of January 23, 1905, United States Consul J. E. Proffit, of Pretoria, transmits the following article from the Rand Daily Mail of the same date, covering the mineral production of the Transvaal (gold, silver, coal, and diamonds) for the year 1904 (values reduced to United States currency in the Bureau of Statistics):

The December returns issued on Saturday by the mines department, showing the results of work done by Transvaal industrial concerns, are of exceptional interest, not only because they demonstrate the great progress made by the colony during that particular month but also because they render possible a general review of the whole year 1904. Such a retrospect, in whatever aspect the official records be reviewed, must be considered gratifying in the extreme, and brings to one's notice the encouraging fact that the year has completely surpassed the preceding twelve months in regard to the production of all minerals—gold, diamonds, coal, and silver.

The increase for 1904 in the value of mineral products is represented by \$21,220,647. At a glance the progress effected may be shown by the following significant comparisons:

Value of gold, silver, coal, and diamonds produced in the Transvaal in 1903 and 1904.

Articles.	1903.	1904.	Increase.
Gold.....	\$61,454,439	\$78,004,560	\$16,550,021
Silver.....	178,819	220,546	41,726
Coal.....	4,272,671	4,301,017	28,446
Diamonds.....	1,166,762	5,767,206	4,600,464
Total.....	67,072,681	88,293,328	21,220,647

It will be seen that the production of diamonds during 1904 was five times that of 1903.

LABOR IN THE TRANSVAAL MINES.

The improvement in the labor position, which made this admirable progress possible, is reflected in the detailed statistics, compiled by the government department. From these it appears that nearly 37,000 more persons—white, colored, and Chinese—were in the employ of industrial concerns at the end of last year than at December 31, 1903. The increase in white labor alone aggregates 2,570, and this figure, be it noted, does not represent unskilled laborers working for a mere living wage, but, for the most part, well-paid men of skill whose earnings largely contribute to the prosperity of trade and commerce. The growth in the numbers of unskilled laborers and consequent increase under the head of white employees are best demonstrated by the following progressive totals:

Number of employees in the Transvaal mines in 1904, by months.

Month.	White.	Colored.	Chinese.
January.....	13,563	85,794	.....
February.....	13,566	88,991	.....
March.....	13,412	91,065	.....
April.....	13,488	90,606	.....
May.....	13,921	89,876	.....
June.....	14,209	86,214	1,004
July.....	14,563	84,970	1,388
August.....	15,172	84,563	4,945
September.....	15,307	87,438	9,020
October.....	15,484	91,183	12,965
November.....	15,879	94,888	17,469
December.....	15,962	97,258	20,885

The figures given for colored labor for December do not include 745 colored convicts.

GERMAN COAL INDUSTRY AND THE COAL MINERS' STRIKE.

(From United States Consul Muench, Plauen, Germany.)

GERMAN COAL PRODUCTION.

A statistical consideration of the coal production of Germany will aid in illustrating the supreme importance which the coal mines of this country have attained in its industrial life. The total output of bituminous or stone coal for the year 1904 amounted to 120,694,098 metric tons, more than 50 per cent of which was mined in the general district of Dortmund, in which some 200,000 miners are now engaged in conducting a gigantic strike. Aside from the bituminous or stone coal there was also a yield of 48,500,222 metric tons of lignite (brown coal), an inferior quality of coal which is mined mainly in the district of which Halle is the center. Besides these there were 12,331,163 metric tons of coke and 11,413,467 metric tons of briquettes produced, the latter being mainly manufactured out of coal dust, lignite, and peat. The total coal production for the seven years ended with 1904 was as follows, in metric tons: 1898, 96,309,652; 1899, 101,639,753; 1900, 109,290,237; 1901, 108,539,444; 1902, 107,473,933; 1903, 116,664,376; 1904, 120,694,098.

FOREIGN COAL TRADE OF GERMANY.

The foreign trade of Germany in coal and coal products for the last two years is stated as follows:

Imports and exports of coal and coke into and from Germany in 1903 and 1904.

Kind.	1903.		1904.	
	Imports.	Exports.	Imports.	Exports.
	<i>Metric tons.</i>	<i>Metric tons.</i>	<i>Metric tons.</i>	<i>Metric tons.</i>
Hard or bituminous	6,766,518	17,389,984	7,299,042	17,996,727
Lignite	7,962,128	22,499	7,669,099	22,135
Coke	432,819	2,523,351	550,302	2,716,855
Total	15,161,455	19,935,784	15,518,443	20,735,717

Almost the entire import of lignite was derived from Austria and its dependencies (mainly Bohemia), while of the import of bituminous (stone coal) Great Britain furnished 5,808,032 metric tons in 1904, against 5,393,828 tons in 1903, and Belgium and Austria each furnished a little over 630,000 metric tons. Of the exported product, the following amounts went to the several countries during the years 1903 and 1904, respectively, in metric tons: Austria, 5,658,974 and 5,827,779; Netherlands, 5,180,531 and 5,114,626; Belgium, 2,409,112 and 2,647,382; France, 1,073,043 and 1,156,775; Switzerland, 1,085,793 and 1,128,637.

EFFECTS OF THE COAL STRIKE.

To those who retain a memory of the far-reaching effects of a similar strike in the coal fields of Pennsylvania in recent years it need hardly be said that the great coal miners' strike in the German coal fields will not only affect the coal industry, but will also affect the industrial life of Germany. In manufactures the quantity of coal held in store will keep the wheels moving but a short time, and neighboring countries have been looked to at once to supply the deficiencies which constantly occur. The basis of all contracts in which the cost of fuel constituted an element have been seriously disturbed. Prices of coal and of the means of transportation are threatening a prohibitive rise, with the result that the weak concerns find themselves compelled to curtail, if not wholly suspend, operations until a settlement of the trouble again restores normal prices and conditions.

At this juncture, the blessings of a liberal supply of briquettes are more than ever appreciated in Germany. Made largely of material that in the United States is commonly treated as refuse, or disregarded because of its original lack of calorific quality, these successful rivals of our anthracite give comfort to the people now when the wonted mine products have failed.

HUGO MUENCH, *Consul*.

PLAUEN, GERMANY, *January 26, 1905.*

COAL TRADE OF NANTES, FRANCE.

(*From United States Consul Goldschmidt, Nantes, France.*)

The approximate prices of coal at Nantes and neighboring ports, per ton of 2,204.6 pounds, are: Wholesale, \$4.82 for coal with 75 per cent of large pieces; \$4.24 to \$4.44 for coal with 50 per cent of large pieces; retail, about \$9.60 for coal of nearly all kinds.

A few years ago a beginning was made at importing American coal, but this has evidently been given up, as during the past year not a ton came into these ports. I am of the opinion that if the foregoing prices can be met by some of our coal exporters, some business can be done in American coal. This would require sending a representative here to open negotiations with the importers, and carefully selecting the coal to be shipped in order to insure uniformity. It is important that the quality of the coal come up to samples and previous shipments.

The very high price of coal at retail leads me to believe that anyone who would establish a coal depot here for the purpose of retailing on a large scale might do considerable business, selling either directly to the consumer or to the smaller dealers. This being a large manufacturing center, a considerable amount of fuel is used, and 1,500,000

tons is not an excessive estimate of the yearly consumption of all kinds of coal when all the industrial concerns are running (some are now shut down). It seems that we should get some of this business, and I have no doubt that we can with energy and "push" of the right kind.

Up to about four years ago the business was entirely controlled by British traders, but recently the Germans started underselling the British, with the result that a fair share of German coal now comes here, and I am told that owing to the care displayed by the Germans in trying to satisfy the wants of the trade by prompt shipments, and by carefully selecting the grades and quality of coal ordered, they are very likely to increase their trade in this line. Most of the German coal comes from the Ruhr district, which has lately suffered from strikes, and the trade has diminished during the last few months, but it is expected that when the strike is settled the imports to this port will assume much greater importance.

The following firms are the chief importers of coal at Nantes: Société Générale des Houilles Agglomérées; Compagnie des Charbons et Briquettes de Blanzky et de l'Ouest; Compagnie des Chemins de Fer de l'Etat; Diverses sociétés d'importation, gaz, etc.; Société des Anciens Etats A. Pergeline Harang; Compagnie des Charbons à Vapeur Powell Duffryn.

Imports of coal and briquettes into the consular district of Nantes, France, in 1904, by countries.

Country whence imported.	Kind.	Quantities.
NANTES.		Tons.
Great Britain	Coal	354,366
Germany	do	56,909
Great Britain	Briquettes	23,886
Germany	do	2,318
Great Britain	Coke	415
Germany	do	1,660
Total		441,473
ST. NAZAIRE.		
Great Britain	Coal	533,772
Do	Briquettes	1,713
Total		535,485
SABLES D'OLONNE.		
Great Britain	Coal	54,444
Germany	do	13,512
Great Britain	Briquettes	2,454
Total		70,410
SUMMARY.		
Nantes		441,473
St. Nazaire		535,485
Sables d'Olonne		70,410
Total		1,047,368

LOUIS GOLDSCHMIDT, *Consul.*

NANTES, FRANCE, *March 3, 1905.*

AMERICAN TRADE IN THE BALKANS AND THE LEVANT.

(From *United States Consul-General Rublee, Vienna, Austria.*)

In the opinion of an Austrian commercial traveler, who has for a number of years past made two trips each year throughout the Balkan States and the Levant, there is an excellent opportunity for acquiring American trade in those countries. At the present time the principal countries absorbing trade in that part of the world are Great Britain, Italy, Germany, Belgium, Austria, France, Netherlands, and Spain, while the United States participates in the trade to but a relatively insignificant extent. This territory is carefully canvassed by the other commercial nations mentioned, and it would seem that American exporters might give their attention to it with good results.

The aforementioned commercial traveler, whose long experience in these Oriental countries makes him an expert judge of conditions there, informs me that American commodities should sell readily in competition with those of other countries. He is desirous of taking seven or eight agencies from American firms, and has applied to me for the purpose of entering into business relations with American houses desirous of exporting to the Balkan States and the Levant. With regard to the kind of goods that should sell well he mentions particularly cotton goods of all kinds and other textiles, rubber shoes and rubber hose, iron and steel ware, wire nails, sole leather, patent leather, chevreau, calf leather, boots and shoes.

It appears that at the present time very little effort is made by American exporters to sell their goods in that part of the world. American traveling agents are seldom seen there, and this is thought to be the reason for the comparatively small sale of American goods. The Austrian commercial traveler, who now offers his services to American exporters, lives in Vienna, and is ready to furnish references to American firms that may wish to employ him. His experience, which has given him a practical knowledge of the countries and the people in the Balkan States and the Levant, should make him a successful agent, and it ought to be worth while to give him a trial. He makes two trips each year, starting the 15th of September and the 15th of February. His name and address may be obtained by applying at this consulate-general, and satisfactory arrangements can doubtless be made with him, especially if six or seven firms should make him their agent and provide him with a full equipment of samples. The expense to each firm would not be great and the advantage of a traveling agent who is thoroughly posted in the trade and conditions of these countries might be considerable.

W. A. RUBLEE, *Consul-General.*

VIENNA, AUSTRIA, *February 24, 1905.*

TEA TRADE OF HANGCHAU IN 1904.

(From United States Consul Anderson, Hangchau, China.)

The Chinese tea season is practically closed. Tea men in this part of the Empire have very little stock on hand. The black-tea season has formally closed. The small amount of green tea now for sale is of poor quality and the tea men find great difficulty in getting rid of it. The country markets are closed. The season on the whole has hardly been a successful one, and the outlook is rather gloomy. The decline in the tea business, which has been marked for several years, is more apparent than ever this year. For instance, the returns of Moyune, Tienkai, and Fychau tea, which passes through Hangchau on its way for export, show a total export this season of 176,203 half chests, against 184,602 half chests last season. The total exports of tea to the United States and Canada from this tea district as reported in trade circulars during the season just closed were as follows:

Exports for the district of Hangchau to the United States and Canada in 1902, 1903, and 1904.

Year.	Black tea.	Green tea.
	Pounds.	Pounds.
1902	10,632,794	17,280,873
1903	8,974,707	21,790,514
1904	6,894,864	18,418,738

The above figures cover the season up to December 31, 1904, and the sales and shipments since that time will not change them very materially.

The Hangchau route for the export of the Fychau group of teas has supplanted the Ningpo route almost altogether.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *January 28, 1905.*

REMITTANCE OF AMERICAN MONEY TO AUSTRIA-HUNGARY.

(From United States Consul-General Rublee, Vienna, Austria.)

The money sent by former citizens of Austria-Hungary, who have emigrated to the United States, to their relatives at home will amount to between \$40,000,000 and \$45,000,000 during the year 1904. An estimate of the amount of money sent home by Austrians and Hungarians who have emigrated, which was prepared by the Austrian ministry of finance for the three years previous to 1904, shows that this item is becoming a highly important one in the fiscal budget of Austria-Hungary. According to this estimate the money received from former

citizens of Austria-Hungary who have emigrated to foreign countries was approximately as follows during this period of three years: 1901, \$27,000,000; 1902, \$33,000,000; 1903, \$39,000,000. While these figures are not exact, being based on information received through banks and business houses, and including also the amounts sent through the post-office, they represent the amount as nearly as it can be ascertained. At the rate of increase during the three years mentioned the sum of money that reached Austria-Hungary from the same source in 1904 should be at least \$45,000,000.

W. A. RUBLEE, *Consul-General*.

VIENNA, AUSTRIA, *February 15, 1905.*

UNIVERSAL SPRING MOTOR.

(*From United States Consul Worman, Three Rivers, Quebec.*)

A new manufacturing concern, the Universal Spring Motor Company (Limited), recently organized at Montreal with a capital of \$500,000, undertakes to manufacture the Universal spring motor, as well as electric, water, and steam motors. The Universal spring motor is a new device for driving household sewing machines entirely independent of any outside power, requiring no attachments to electric wires or other connections.

These motors, with which any make of machine can be fitted, will do away with the necessity of the operator working the treadle, in this way effecting a saving of labor, while at the same time permitting the work to be done in about half the time taken on machines not fitted with it. The motor is operated by a stout spring, which can be wound by hand, and which, once wound up, will work for a long time without any further attention, aside from the regulation of the machine.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *March 5, 1905.*

ELECTRIC TRAMWAYS AND LIGHT RAILWAYS IN ENGLAND.

Under date of February 22, 1905, United States Consul-General H. Clay Evans, London, transmits the following article, published in the London Daily Express of even date, under the heads "Triumph of electricity," and "Remarkable figures as to its use on British tramways." In the printed extract herewith pounds sterling have been reduced to dollars in the Bureau of Statistics.

The triumphant march of electricity as applied to tramways and light railways is shown in a board of trade return issued yesterday,

giving the figures for street and road tramways for 1903-4, with comparative statistics for past years.

The return covers the period from 1878 to 1903-4, and divides it into three periods—horse, steam, and electricity. The maximum year of the horse period was 1879, that for the steam period 1898, while the use of electricity is still growing. A selection from the figures given in the return shows some of the results of the new method of traction.

Length of lines, number of passengers carried, net and gross receipts, average fare per passenger, and capital invested on British tramways, 1879, 1898, and 1903-4.

Item.	1879.	1898.	1903-4.
Miles of route open.....	269	1,604	1,840
Passengers carried.....	146,000,223	858,485,542	1,799,342,673
Passengers carried, per mile.....	469,641	806,703	977,961
Net receipts.....dollars.	1,123,947	5,120,682	14,171,788
Gross receipts.....do.	5,349,602	22,191,853	41,875,688
Average fare per passenger.....cents.	3.68	2.46	2.2
Capital.....dollars.	20,475,069	80,262,547	235,788,952

In 1898, 38,777 horses and 589 steam locomotives were employed on the tramways. In 1903-4 there were only 15,353 horses and 249 steam locomotives. The places of those which have gone have been taken by 7,132 electric cars. In other words, over 1,460 miles of tramway and light railway line are now under electric traction, and only 235 under horse and 108 under steam.

Of the total of 312 tramway and light railway undertakings in the United Kingdom, 162 are now owned by local authorities, with a total of 1,147 miles of track. A total capital expenditure of £28,060,524 (\$136,556,541) has been incurred by local authorities.

From the profits of these municipal undertakings a sum of £207,087 (\$1,007,789) was, in 1903-4, handed over to the relief of the rates. Among the places at which this satisfactory result was achieved were the following:

Sums handed over from the profits of municipal tramways and light railways to the relief rates of certain cities.

Cities.	Paid to the rates.	Cities.	Paid to the rates.
Leeds.....	\$253,058	Nottingham.....	\$68,264
Manchester.....	243,325	Salford.....	58,398
Liverpool.....	134,661	Hull.....	55,955
Glasgow.....	124,662		

Other interesting figures given in the return show that the tramways and light railways paid £287,733 (\$1,400,253) in rates and taxes, and that £1,239,121 (\$6,030,182) was paid in dividends.

BANKS AND BANKING IN PERU.

(From United States Secretary of Legation Neill, Lima, Peru.)

GROWTH OF PERUVIAN BANKS.

Only a few years ago, when the reign of peace had not yet imparted to Peru new life and increased commercial and industrial movement, there were only three banks in Lima: (1) Bank of Callao, (2) a branch

of the London Bank of Mexico and South America (which, later on, was fused with the Bank of Callao), and (3) the Italian Bank. The capital of these three banking establishments did not then exceed £300,000 (\$1,459,950), which was amply sufficient for the requirements of trade at that time, when both agriculture and mining were languishing.

But as soon as the great change took place in the political condition of Peru, and confidence sprang up on every side, a wonderful improvement came about. The native capital which was previously hidden away, or was invested in foreign countries through fear of political troubles and the consequent losses to everyone, began to come forth at the same time that foreign capital, especially from the United States, commenced flowing into this country. From that time dated the commercial resurrection of Peru and the era of prosperity which the Republic now enjoys.

The banking establishments of Peru, which in 1895 represented a capital of £300,000 (\$1,459,950), are now capitalized as follows:

Banks of Peru and their capital.

Banks.	Pounds sterling.	Dollars.
Bank of Peru and London.....	200,000	973,800
Italian Bank.....	100,000	486,650
International Bank.....	100,000	486,650
Popular Bank.....	72,000	350,388
Mortgage Bank.....	100,000	486,650
La Colmena.....	100,000	486,650
Credito Urbano (Lima).....	10,000	48,666
Credito Urbano (Arequipa).....	10,000	48,666
La Dotal.....	5,000	24,333
Property Banking Society.....	50,000	243,325
La Acumulativa.....	30,000	145,996
Total.....	777,000	3,781,271

The capital devoted to banking operations has consequently increased in amount more than 150 per cent in the last nine years, which is in itself a sufficient proof of the increased financial, commercial, and industrial movement of the country.

Of the institutions above named, those which limit their operations strictly to banking have shown the following profits:

Profits of Peruvian banks in 1902 and 1903.

Banks.	1902.		1903.		Last dividend declared.
	£	\$	£	\$	Per cent.
Bank of Peru and London.....	£57,423	\$279,449	£68,709	\$334,372	16
Italian Bank.....	18,779	91,388	20,000	97,330	16
International Bank.....	14,868	72,355	16,310	79,566	14
Popular Bank.....	9,313	45,322	10,396	50,192	12
Savings Bank.....	4,016	19,544	4,954	24,109	.....
Credito Urbano.....	2,659	12,939	6,282	30,571	16

The foregoing results have brought about an active inquiry for the shares of these institutions, some of which are now quoted at 100 per

cent premium, as, for instance, those of the Bank of Peru and London, of which the original value was £10 (\$48.66), while their value to-day in the market is £19.5 (\$93.66), and those of the Italian Bank, which are quoted at about the same price as those of the Bank of Peru and London.

It is likewise interesting to compare the figures showing the positions of the banks ten years ago and at the present time. For instance, the three banks existing in 1894 had in cash £355,245 (\$1,728,800), while to-day they have £532,479 (\$2,591,309); in 1894 the deposit accounts showed £890,527 (\$4,333,750), while the same accounts at the present time show £2,875,072 (\$13,991,537). Consequently it is evident that in ten years the amount of the banking operations has increased 210 per cent.

Outside of Lima only the Bank of Peru and London has branches in a few of the principal commercial centers.

OPENINGS FOR AMERICAN BANKS.

It must be admitted that in Peru the great advantages of a real banking institution are not yet known, and undoubtedly this would be an excellent opportunity for the establishment of an American bank, in view of the yearly increasing trade between Peru and the United States. A mortgage bank with foreign capital could also do a large and secure business, as the laws of Peru specially protect mortgages effected with banking institutions. An agricultural bank would also have good prospects in Peru, and would tend to increase the production of cotton, cocoa, coffee, sugar, and other articles of export. I am of opinion that an American joint stock company with its principal office in a city of the United States would have just the same protection as if it were an incorporate body.

BANKING LAWS AND TAXATION.

In Peru there is no special law regarding either native or foreign banks, except that they are not allowed to issue notes. Of course that has nothing to do with checks drawn upon them by those having accounts with them, or with bank checks given by the banks as a facility for the transfer of funds from one establishment to another or such as are used for special purposes.

The taxation is as follows: From £10 to £20 (\$48.66 to \$97.33) for permission to open the bank, 4 per cent per annum on the net profits of the bank for property tax, and 5 per cent per annum on the net profits for the municipality tax. There is a special tax respecting mortgages on property given to the banks, by which these establishments have preference of payment in case of sale of the property mortgaged. Each check pays a stamp duty of 2 cents, which is collected by the banks from the parties who solicit check books.

RICHARD R. NEILL, *Secretary of Legation.*

LIMA, PERU, *February 2, 1905.*

MEXICAN NOTES.

(From United States Consul Canada, Veracruz, Mexico.)

Food adulteration.—The superior board of health of Mexico informs dealers in food products, especially milk dealers, that the use of preservatives in food is prohibited and punishable by the board as food adulteration.

Military school.—Under the name of "Escuela Militar de Aspirantes" a school of instruction has been founded with the object of educating aspirants to the grade of noncommissioned officer in either of the three branches of the regular army. No one can obtain that grade without first having concluded his studies in this institution or in the "Colegio Militar." Sergeants may advance to the grade of officer if they have successfully passed the prescribed time in studies at the school, and can attain the grade of sublieutenant of militia auxiliary to the army. If, after having served one year in that grade, the officer shows himself to be possessed of the proper military spirit and otherwise has the qualifications for making a good officer, he can secure the grade of sublieutenant in the regular army.

Consular invoices.—When importing foreign merchandise by way of the frontiers, it is necessary in order to comply with article 457 of the "Ordenanza General de Aduanas" that the consular invoices be made out on a special form and that they be certified to by Mexican consuls resident in frontier towns near to Mexican custom-houses, and therefore all invoices that have been certified to in other places than those indicated shall be useless for the traffic mentioned.

Light-house service in the Gulf of Mexico.—The Zapotitlan light, heretofore painted partly red and white, will be painted all white from March 1, 1905.

Coal wharf in Veracruz Harbor.—The Mexican Congress has approved of the contract dated November 28, 1904, and entered into between the Government and Messrs. Luis G. Marron Velasco and Ramon Miranda y Marron, for the construction and operation of a wooden coal wharf, with ample storage capacity and all the requisite machinery, tracks, and rolling stock. The wharf may also be used for loading and unloading lumber, machinery, and minerals. Work is to commence within six months from the date of the contract. The company will deliver coal at cost to the Government, charging only 50 per cent of the current cost of labor in connection therewith. The Government reserves the right to store 500 tons of coal, with free use of the wharf for loading and unloading. The company must keep on hand at all times a stock of at least 2,000 tons. All construction material is to enter free of duty. The contract is for twenty years, at the expiration of which time the entire plant becomes the property of the nation, but it is expressly stipulated that the Government has the right to acquire the plant at any time by purchase.

Special tax on cotton manufactures.—The cotton-goods manufacturers of Mexico have been taxed for the six months from January to July, 1905, \$557,575 gold. There are 127 factories in the Republic; 11 are in the State of Veracruz, and pay of this tax \$130,197.

Redemption of bonds.—The Government notifies holders of the 6 per cent subvention bonds of the Veracruz and Pacific Railroad issued January 1, 1900, under the laws of February 28, 1898, and June 3, 1899, that these bonds will be redeemed at par value on and after March 1, 1905, in the manner prescribed by the decree of November 26, 1904.

Mosaic woodwork factory.—The Government has been petitioned for a concession to establish a factory for manufacturing mosaic woodwork for floors, walls, or ceilings, with the guaranty that at least \$100,000 silver (\$46,800 gold) shall be invested in the enterprise during the time mentioned in the concession.

Fishing and hunting rights.—Messrs. Luis G. Fontana, Lic. Rosendo Cordero, and Lic. Jos B. Maya have secured the exclusive rights for fifteen years to the fisheries in the zone comprised between the bar at Tecolutla and the port of Coatzacoalcas, including all lakes and inlets in that zone. They will engage in the catching of shrimps, lobsters, crabs, cuttlefish, sharks, seals, porpoises, cetaceans, alligators, etc., and of all kinds of fish and turtles. The concessionaires have also secured the privilege of hunting fowl of all kinds within the limits of the zone mentioned and establishing oyster fisheries in fixed localities along the coast line. Within the term of two years from the date of the concession they are to erect a plant for preserving sea-food products. They are to pay into the national treasury, annually, the sum of \$1,200,000 Mexican (\$583,200 gold), in advance, and to the respective custom-houses in the zone the following sums in Mexican currency:^a

Sums to be paid annually to the Mexican Government by concessionaires on fishing and hunting products.

Products.	First five years.	Remaining years of concession.
Alligator skins..... per ton.....	\$5.00	\$8.00
Alligator fat..... do.....	.60	1.00
Cetaceans..... do.....	5.00	10.00
Cetacean oil..... do.....	2.00	5.00
Fish, salted and preserved, including shellfish..... do.....	.25	.50
Seawolf skins..... each.....	.05	.10
Common turtle..... per ton.....	1.00	1.00
Tortoises..... do.....	5.00	5.00
Oyster shells..... do.....	.03	.07
Preserved oysters..... do.....	20.00	20.00
Birds killed..... per 1,000.....	2.00	2.00

W. W. CANADA, *Consul.*

VERACRUZ, MEXICO, *March 2, 1905.*

^aThe Mexican dollar was valued at 46.8 cents by the United States Treasury on January 1, 1905.

CONSTRUCTION OF VALPARAISO PORT WORKS.

Under date of January 25, 1905, the American secretary of legation at Santiago, Chile, Edward Winslow Ames, transmits the following translation of a call for tenders for the construction of the port works of Valparaiso, on the "Kraus project." The call for tenders was issued by the Chilean Executive on January 20, 1905.

ARTICLE 1. Public bids are asked for the construction of the improvements in the port of Valparaiso, in conformity with the provisions of law No. 1711 of November 16 last, and with the project, plans, and specifications of the engineer, Mr. Jacob Kraus, in so far as the latter are not in contravention of the present decree.

ART. 2. The bids shall be made either for the whole of the general and supplementary works indicated in the said project or only for the general works. In the first case the bidders shall state separately the price at which they will undertake to construct the general works, the estimate for which amounts to 28,567,211 pesos [\$10,327,032], exclusive of the cost of expropriations of property, and the price for the supplementary works, the estimate for which is 4,573,550 pesos [\$1,669,346].

ART. 3. For the supplementary works the bidders shall state their prices per unit for the various works which are enumerated in the Kraus project and which the Government may determine upon by virtue of the statement of specifications. Said prices per unit shall be those indicated in the statement referred to, modified in the ratio which the whole price fixed by the bidders for the supplementary works in accordance with the preceding article may bear the whole sum of 4,573,550 pesos provided therefor by the official budget.

ART. 4. In conformity with article 13 of the statement of conditions (specifications) of the Kraus project, the Government shall undertake all proceedings relative to the expropriations which must be effected in carrying out the project, and shall pay for such expropriations with the funds authorized by the law of November 16, 1904.

ART. 5. The prices named in the tenders shall be stated in pounds sterling [\$4.8665] or their equivalent in Chilean gold at 18 pence [36.6 cents] per peso.^a

ART. 6. Bidders may indicate at the time they present their bids, but in separate statements (sheets), modifications of detail which they may consider it expedient to make in the works as planned in the Kraus project, as well as in the manner of executing them. In that case they must accompany their tender with a statement justifying these modifications and the methods of executing them which they propose to adopt. Eventually they shall submit their explanatory calculations with reference to their modifications.

ART. 7. In accordance with the provisions of article 4 of the law of November 16, no one shall be permitted to submit tenders unless he shall previously have deposited security equivalent to 2 per cent of the amounts indicated in article 2 of this decree, with a voucher to that effect from the director of the treasury, and unless he shall accompany his tender with a certificate to the effect that he has successfully executed maritime works of importance. These certificates

^aThe Chilean peso is valued by the United States Treasury at 36½ cents.

must be legalized by diplomatic functionaries of the country abroad and by the minister of foreign affairs.

ART. 8. As regards payment of the works, the bidders shall express a preference, in accordance with article 2 of the law of November 16, between the following methods:

(a) Cash payments (as the works proceed).

(b) Full payment on the completion of the works, and in this case there shall be paid 5 per cent interest on the value of the works executed, calculated every six months.

(c) Concession of the exploitation of the works to the contractors, in which case the charges which they may collect in the future port shall not impose on ships and commerce a burden greater than at present. Said charges shall be fixed in conformity with article 8 of the law of November 16, as the works which can be delivered for use are completed.

ART. 9. In case the contractor shall decide to be paid in cash, the security referred to in article 8 [should be article 7] shall, with the deposit provided for in article 44 of the list of conditions, constitute a guarantee fund. If the contractor shall prefer to be paid according to plan *b* or *c*, the security of 2 per cent shall be returned to him when the value of the definite works completed by him shall have reached that sum, said works being valued according to the method prescribed in the list of conditions.

ART. 10. In case a tender based on either *b* or *c* form of payment be accepted, the modifications which it may necessitate in the list of conditions of the Kraus project shall be indicated at the time of signing the contract.

ART. 11. In conformity with article 12 of the list of conditions included in the data on which the contract is based, all materials, machinery, and such other things as may be necessary for executing the works shall be exempt from customs duties.

ART. 12. The proposals shall be studied and reported on by a commission which shall be designated before the proposals are opened.

ART. 13. Within fifteen days after the acceptance of any of the proposals the contract shall be signed by the director of the treasury, on behalf of the Government, and by the authorized representative of the constructing company.

ART. 14. The President of the Republic reserves to himself the right to reject all bids if he consider it expedient to do so.

ART. 15. Notices of call for bids will be published a year in advance in Santiago, Berlin, Brussels, London, Paris, and New York. The bids shall be opened in the ministry of the treasury in Santiago, Chile, the first week day in April, 1906, at 2 p. m.

CONFLICTING LUMBER INTERESTS IN BRITISH COLUMBIA.

(From United States Consul Smith, Victoria, British Columbia.)

AMERICAN LUMBER IN BRITISH COLUMBIA.

The legislative assembly of British Columbia met in annual session February 9, 1905, and the lumber question at once came to the front. On February 13 a motion was made by a liberal member indorsing

the request made by the lumbermen of British Columbia at a meeting held a few days previously that the Dominion government place an import duty upon foreign lumber brought into Canada. During the debate it was stated and reiterated that the purpose was to keep American lumber out of the province; that the mills of the State of Washington had for the past year made a practice of selling their surplus product in British Columbia at rates which compelled several lumber mills to close down, and that only by imposing an import duty, preventing the so-called "dumping" of American lumber in the province, could lumber mills be profitably run in British Columbia. The resolution passed by a unanimous viva-voce vote in the assembly, and has already been forwarded to Ottawa.

It is well known that any import duty on lumber is strenuously opposed in Manitoba and other prairie countries. Great interest is felt respecting the action to be taken by the Dominion government.

BRITISH COLUMBIA LUMBER IN THE UNITED STATES.

Meanwhile the British Columbia Loggers' Association has as unanimously presented a petition to the provincial government asking the removal of the tax on logs cut in British Columbia and sold to American lumber mills. This tax on all logs cut on leased government land in British Columbia, rebated if logs are manufactured or used in British Columbia (described in Daily Consular Reports for April 13, 1904, No. 1926), ranges from \$4 to \$7.50 per 1,000 feet B. M., and \$1 per cord on cedar, fir, or spruce. The argument of the British Columbia loggers is that under the working of the act the small or independent loggers are at the mercy of the large mills, being debarred an alternative market. As soon as the large mills are supplied the small loggers have to find a market in the United States or sell their products at ruinous prices. An effort will be made at the present session of the British Columbia legislature to remove the restriction complained of, that the timber of the province may be cut and used instead of being allowed to remain in the forests or destroyed, as millions of feet are by fire annually, because, by the provincial law, the loggers are prevented from disposing of their product in the markets of the United States.

ABRAHAM E. SMITH, *Consul*.

VICTORIA, BRITISH COLUMBIA, *February 16, 1905.*

AMERICAN COMMERCIAL INFLUENCE IN NORTHERN NICARAGUA.

(*From United States Minister Merry, San José, Costa Rica.*)

The Nicaraguan officials at Cape Gracias á Dios removed to-day to Port Dietrick, where a commodious building has been erected for their service. As the extension of American commercial influence in

northern Nicaragua may be of interest, I communicate the following particulars:

James Dietrick and associates, of Pittsburg, Pa., authorized by concession from the Nicaraguan Government, are extensively engaged in the development of this productive territory, using the navigable Wanks River to reach its interior. Operations have been restricted to the south side of the river, the territory north being under the jurisdiction of Honduras.

Port Dietrick is situated on an island near the mouth of the river on the Caribbean Sea coast. The approximate population of Cape Gracias is 600, of whom about 50 are American citizens. The Dietrick Company now employs 150 men, of whom 25 are citizens of the United States. The Bluefields Steamship Company, of New Orleans, is obligated by contract with the Nicaraguan Government to call at Cape Gracias twice a month each way, and supplies for the enterprise are shipped mostly from New Orleans. The Dietrick Company has erected, at the location selected for their port, a wharf, stores, warehouses, quarters for mechanics and laborers, cottages for married employees, machine shops, and a sawmill, and a hotel is nearing completion.

The merchants at Cape Gracias (the old settlement) will have to follow the custom-house to its new location, and are arranging for the construction of stores and residences there. Of the work that this company is doing in the interior I have little information that is reliable, but its concession covers commercial, mining, agricultural, and timber interests, in all of which it is stated to be engaged. I am informed that over \$750,000 gold has already been invested, and this amount must be largely increased before any returns can be expected. It is a work which will greatly benefit northern Nicaragua.

WILLIAM LAWRENCE MERRY, *Minister.*

SAN JOSÉ, COSTA RICA, *January 14, 1905.*

NEW LIGHT-HOUSE ON THE MEXICAN COAST.

Under date of March 2, 1905, United States Consul W. W. Canada, Veracruz, Mexico, transmits the following translation of a Notice to Mariners relative to the installation of a new light-house on the Mexican coast of the Caribbean Sea, Territory of Quintana Roo, on January 1, 1905:

This light, "Puerto Morelo," was inaugurated on January 1, 1905. Its approximate geographical position is longitude west of Greenwich, $86^{\circ} 53' 15''$; latitude north, $20^{\circ} 53' 32''$.

Class of light.—Fixed white, with two flashes (f. b. with 2. o.). The illuminating apparatus is of 0 m 15 focal distance from the

horizon and illuminates 192 degrees. The luminous intensity is of the power of 8 Carcel lamps. Elevation of the light above the level of the ground, 11 meters (36 feet). Height of the focal plane above half high tide, 13 meters (42.6 feet). Visibility of the light in clear weather, 10 nautical miles. Visibility of the light to the eye of a person at 6 meters (19.68 feet) above sea level, 12 nautical miles.

The light is situated 2½ miles north of Punta Brava, on a mast near the wharf, with cabin of iron, painted red, on a base of masonry 3 meters (9.8 feet) high, and of the color of cement. The wooden dwelling of the keeper, situated close to the light, is painted white and is roofed with clay tiles.

AUSTRALASIAN BUTTER IN CANADA.

(From United States Consul Worman, Three Rivers, Quebec.)

The great scarcity of butter this winter throughout the Dominion, occasioned, it is said, by an attempt of speculators to force up the price unreasonably, has resulted in the importation of butter from Australasia. The first shipment received at Montreal, consisting of 300 boxes of fine creamery butter, was unloaded from the Australasian steamer at London immediately upon its arrival, and was without loss of time forwarded to Liverpool, where it caught the Allen Line steamship *Bavarian*, and was landed at West St. John March 6. Another shipment by way of New York is overdue. It is claimed that on account of the customs regulation concerning preservatives it is delayed there, and the Dominion papers are making a point of it, to the disadvantage of the American interocean and railway connections.

This Australasian butter is stated to be of very fine quality, fully equal in flavor, odor, color, and texture to the finest September Canadian butter, while the manner in which it is put up is superior to that of the Canadian product. The box is about the same size as the Canadian box, but it is stronger, and the wood is considerably thicker. The casual observer would consider the nicely dovetailed Canadian box as neater in appearance than the nailed box of Australasia, but it is claimed that the latter always arrives in sound condition, while the former is frequently broken. The Canadian box is shipped in a light bag, which undoubtedly adds to the appearance, as well as to the cost of the package, yet does not seem to protect it from breakage. The Australasian package is shipped without a bag.

The appearance of the butter when the package is opened is sufficient to give it a preference over the average Canadian article. A very superior parchment is used, and the centerpiece covering the top contains all the particulars regarding the origin of the butter printed or written upon it. For instance, one of those inspected this morning contained the name and trade-mark of the factory, with its address, after which was a statement to the effect that the butter was produced

from farms that were under dairy supervision and licensed. This statement was signed by the dairy inspector under date of December 20, 1904.

On the outside of the box was a stamp containing the inscription, "Approved for Export. E. R. First Grade, Victoria," showing the governmental supervision of the export trade. The top of the butter contained the impression of a large stamp, showing the trade-mark of the factory. Each package contained 56 pounds, neither more nor less. This Australasian butter is marketed at 29 cents at Montreal.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *March 10, 1905.*

CANADA AND THE BRITISH FOOD SUPPLY.

(From *United States Consul Worman, Three Rivers, Quebec.*)

At a recent meeting of the Montreal Political Economy Club a most suggestive paper was read by Mr. Edgar Judge on the food supply of the (British) Empire.

The main purpose of the paper was to point out, by a careful exhibit of statistics of Russia, the United States, and the Dominion, the immense possibilities of Canada as a greater grower and exporter of food products than either of the other two powerful nations.

The speaker quoted figures showing the increase in homestead holdings in the Northwest since 1896, which have sprung from 297,760 acres to 5,229,120 acres. He divided Canadian exports of food into three classes—wheat and other food grains, animals and animal products, and the produce of the fisheries. He quoted figures to prove his contention that the exports from the Dominion to Great Britain of the first two classes are growing mightily, with a corresponding decrease in the exports of the same classes to the United States from Canada. Mr. Judge considered that this proves that Canada's natural market is Great Britain and that reciprocal trade relations with the United States would be of little benefit to her.

In conclusion, Mr. Judge said: "If 50,000 farmers could raise 70,000,000 bushels of wheat in 1902 in Manitoba, then 250,000 could raise 350,000,000 bushels—enough to supply the total import requirements of Great Britain and to feed our own population."

Mr. Judge's paper also dealt exhaustively with the cost of transportation of wheat, etc. He stated that the freight on wheat shipped from Fort William, Canada, to London, England, was less than that on grain shipped from points in the English midlands only 100 miles away from the great metropolis. India and Australia, as possible rivals of Canada in the wheat-export business, were touched upon.

JAMES H. WORMAN, *Consul*.

THREE RIVERS, QUEBEC, *March 11, 1905.*

RAILROADS IN CHINA.

(From United States Consul-General Cheshire, Canton, China.)

A list of the railways in operation in China, with mileage of each, follows, with an account of the roads under construction and the concessions which, I believe, have been granted by the Chinese Government:

Railways in operation in China.

Railways.	Nationality.	Miles.
Harbin to Niuchwang	Russian	900
Niuchwang to Dalny and Port Arthur	do	150
Niuchwang to Shanhaikwan	do	150
Shanhaikwan to Tientsin	Chinese	144
Tientsin to Taku	do	27
Tientsin to Peking	do	79
Peking to Hankau	Belgian	500
Shanghai to Wusung	English	14
Tsingtao to Tsinanfu	German	197
Branch to Poshan coal mines	do	74
Total		2,235

The following roads are under construction: Kaifong to Honanfu (Belgian); Canton to Hankau (American); Tientsin to Chikiang (German); Chingting to Singanfu (Russian); Taiyuin to Chenting (Russian).

Concessions have been granted by the Government for the following lines: Shanghai to Nanking (English); Hongkong to Canton (English); Suchau to Hwaiian (English); Ningpo to Hangchau (English); Tongking to Yunnan (French); Tsinanfu to Kaifungfu (German).

PROPOSED RAILWAYS.

Many other roads are proposed. Indeed, there are schemes, more or less defined and organized, to connect all Chinese cities of importance and gridiron the entire Empire with rails, and there are serious plans to afford every one of the sixteen provinces access to tide water. One of the most important lines for which concessions have already been granted, as above mentioned, has been undertaken by an English syndicate, which proposes to girdle that prosperous section around Shanghai with a series of connecting roads that will give each of nine important cities transportation facilities to the Shanghai market. Another proposed English enterprise is intended to connect Hankau with several important cities north and south of the Yangtse River, all of which offer favorable prospects. These same roads would reach mineral deposits of great value, particularly iron, anthracite and bituminous coal, copper, and tin. Still another English scheme is to connect Canton with Chengtu, the capital of Szechuen Province, and the head of navigation on the Yangtse River.

F. D. CHESHIRE, *Consul-General.*

CANTO. CHINA, *January 28, 1905.*

RICE PRODUCTION AND PRICES IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

Experts in rice matters in this part of China declare that the price of this great Chinese staple will fully double in the course of the next three months. Their predictions are based upon the unusually low price of the grain and conditions affecting its export. At present, in most of the cities of this consular district, rice is selling at from \$3 to \$3.40 Mexican (\$1.40 to \$1.55 gold) per picul (133½ pounds). Ordinarily, the grain sells at from \$5 to \$5.50 Mexican per picul, or about 2 cents gold per pound. At such a price the rice farmers will make money on about the same scale as would American farmers in the Mississippi Valley States producing wheat on the basis of 80 cents a bushel in Chicago. The present rate therefore is very low, and in spite of a fair harvest of the crop the rice farmers are realizing very little money. The first result of their failure to get a fair price for their product is that they are compelled to sell more of their crop to raise necessary money and to save less for their own use. Most of them will have to buy back some of this grain at a ruinous advance before they can secure the new crop. The present situation, therefore, is especially hard upon the rice farmers, although for the time being it is taken as a blessing for the cooly classes in the larger cities.

The export of rice from China is practically prohibited by law, but many ways of evading the laws are found, and ordinarily a considerable quantity goes abroad. The Russo-Japanese war, however, has prevented some trade in this line this year, and has materially affected the situation. One notable result of the prevailing price of the grain is that almost every one of the officials in this portion of the Empire who collect the Emperor's rice tribute has lost money by reason of his office. The collection of the tribute is farmed out, and most of the officials have had to pay more money for the privilege than they have realized from the sale of rice secured under it.

GEORGE E. ANDERSON, *Consul.*

HANGCHAU, CHINA, *January 24, 1905.*

INDIA AND CEYLON TEA AND THE BRITISH TARIFF.

(From United States Consul-General Evans, London, England.)

A deputation from the Indian Tea Association called upon the chancellor of the exchequer a few days ago to lay before him the condition of the tea industry of India, with an appeal for the reduction of the tax (tariff), on the imports of tea into the United Kingdom.

It was shown that India has under cultivation 525,000 acres of tea

and produces over 200,000,000 pounds per annum. The war duty (tariff) was 12 cents a pound. To this 4 cents has since been added, making 16 cents a pound. This, it was claimed, made an import duty of from 100 to 120 per cent ad valorem; and that whereas formerly the increase in the consumption of tea had been about $2\frac{1}{2}$ per cent or 5,000,000 pounds per annum, since 1900 (when the additional 4 cents was added) there had been no increase in the consumption, and the trade was stagnant as a result. They claimed that the present tax puts a burden upon the tea grower in India and Ceylon (British colonies) of \$66 per acre per annum.

The capital invested in India in the tea industry amounts to from \$97,330,000 to \$121,662,000. In 1866 China furnished the United Kingdom with 114,000,000 pounds of tea, or about 96 per cent of the consumption, while in 1904 only 4 to 5 per cent came from China. India now furnishes 60 per cent and over, while Ceylon furnishes more than 31 per cent, or the two combined 92 per cent of the tea consumed. India contributes 155,000,000 pounds and Ceylon 80,000,000 pounds. The per capita consumption had increased from $3\frac{1}{2}$ pounds in 1866 to over 6 pounds per head of population in 1904. It would seem that the producing capacity of the colonies has not only been wonderfully increased, but that the consumption of tea has been greatly stimulated.

In the Netherlands the consumption of tea per head per annum is 1.48 pounds; in the United States, 1.09 pounds; in Russia, 0.93 pound; in Germany, 0.12 pound, and in France, 0.06 pound.

The chancellor of the exchequer showed that the actual consumption of duty-paid tea in the United Kingdom was last year 256,000,000 pounds.

H. CLAY EVANS, *Consul-General*.

LONDON, ENGLAND, *February 8, 1905.*

OPPORTUNITIES FOR AMERICAN CONTRACTORS.

(From United States Consul-General Guenther, Frankfurt, Germany.)

BRIDGES.

Argentina.—The “Director Vias de Comunicacion” in Buenos Aires will award contracts for the building of two bridges across the Rio Jesus Maria and the Rio Cuarto.

Chile.—The department of public works in Santiago will accept bids for the construction of a bridge over the Huasco River at Freirina.

MUNICIPAL WORKS.

Argentina.—Andalgala is to have new waterworks.

Austria.—The municipality of Cherso, Dalmatia, plans the erection of an electric lighting plant.

Brazil.—The Brazilian minister of the interior has been authorized to negotiate a loan for the purpose of improving the water supply of the city of Rio de Janeiro.

Bulgaria.—The municipality of Sofia will award a contract for the delivery of iron pipes to cost not over \$22,230.

Ceylon.—The governor of Ceylon has been authorized to negotiate a loan of \$5,000,000 to be expended in harbor and sewerage works and railroads for the city of Colombo.

Germany.—The municipality of Wiesbaden has voted \$391,000 for the building and outfit of a surgical section of the new hospital in course of erection in that city. As American hospitals and surgeries have many novel and superior fixtures and apparatus it might be well to bring them to the attention of the Wiesbaden and other European municipalities and universities.

India.—New piers will be constructed by the Bombay Port Trust for the unloading of petroleum.

Netherlands.—The towns of Veendam and Wildervank project the construction of electric works for lighting purposes. Apply to Everts & Hazewinkee, Veendam.

Spain.—The municipality of Madrid offers a prize for the best method of purifying its water supply by means of a filtration plant. For particulars apply to "Laboratorio Quimico Municipal," Madrid, Spain.

RAILWAYS AND TRAMWAYS.

Argentina.—The Southeastern Railway Company of Buenos Aires will extend its line to San Rafael, province of Mendoza.

Austria.—The municipality of Kitzbuehel, Tyrol, will build a funicular (cogwheel) railroad to the top of the Kitzbuehel Horn.

The municipality of Prague, Bohemia, has voted \$56,000 for the purchase of electric tramway cars and \$5,400 for a rotatory transformer.

Bulgaria.—The Bulgarian railway department at Sofia is open to offers for the sale of 400 tons of creosote.

Cape Colony.—Cape Colony has negotiated a loan of \$10,675,000 to be expended for railway works, local improvements, etc.

Cochin China.—For the construction of railroad lines in Cochin China the following sums have been granted: \$5,480,000 to extend the Saigon Railroad to the Khan Hoa coast; \$2,300,000 from Phanrang to Danhim, and \$1,460,000 from Hue to the Kwangtri coast.

Italy.—The "Societa romana tramways omnibus" of Rome has been authorized to change its horse-car line to electric traction.

The managers of the following Italian railroad companies have decided to increase their rolling stock: The Adriatic Railway Company will expend \$3,520,000 for new locomotives (32) and passenger and freight cars; the Mediterranean Railway Company will expend

\$2,600,000 for the purchase of 80 locomotives and 200 passenger cars; the Sicilian railways will spend \$565,200 for 450 cold-storage railroad cars.

Netherlands.—The minister for the colonies in The Hague will receive proposals for furnishing railroad materials, axles, wheels, brakes, etc.

Portuguese East Africa.—The Portuguese Government has projected the building of a railroad from Delagoa Bay to Swaziland, and is now negotiating a loan for that purpose.

Servia.—The Government of Servia intends to build various railroad lines of a total length of 750 miles; also sewerage works, waterworks, quays, and storage houses in the city of Belgrade. Contracts will be concluded for supplying rolling stock for railroads and for constructing iron bridges subsequently.

Spain.—The following permits have been granted: To the "Sociedad minera San Salvadore," at Santander, to build a railroad line to San Salvador, and to the "Compania de Tranvias," at Cartagena, to introduce electric traction on their street-car lines.

The municipality of Santoña contemplates the construction of a steam tramway to Gama.

The municipality of Madrid has voted \$2,522,000 for the widening of the Calle de Preciados and the building, drainage, and lighting of a new street. The party obtaining the contract will have a forty years' privilege of running an electric tramway in these two streets.

MISCELLANEOUS SUPPLIES.

Argentina.—The government of the province of Corrientes contemplates the erection of a cotton gin and an oil factory.

The Argentina legation in London has been instructed to purchase the following articles for the port "Puerto Militar:" Four hydraulic cranes, one automatic Dennison scale of 30 tons, three automatic Dennison scales of 5 tons each, eight anchors of 8 tons each, harbor chains, cordage articles, etc.

Austria.—The Austrian ministry of commerce at Vienna will purchase about 120,000 pounds of vitriol of copper.

Roumania.—The Roumanian postal department at Bukharest will purchase 52,600 insulators and 28,000 pounds of bronze telegraph wire.

Spain.—The "Direccion General de Correos y Telegrafes" in Madrid will receive proposals for furnishing telegraphic and telephonic supplies.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 28, 1905.*

BELGIAN INDUSTRIAL CONDITIONS.

(From United States Consul McNally, Liege, Belgium.)

COAL TRADE AND THE COAL STRIKES.

This market has suffered considerably on account of the coal strikes in the Ruhr district, Germany, as well as in Belgium. It is thought that the end of the strikes is in sight, which fortunate event will mark an increase in the activity of the markets in this country. The time of year is at hand when the Government invites bids for furnishing fuel to its State railways. The accepted bid usually regulates the price of coal throughout the Kingdom. It is therefore confidently expected that last year's price will prevail. One encouraging feature of the prospective activity is the present flourishing condition of the various industries, which seem to be taxed to the limit of their capacity, having on hand ample orders to insure a continuance of this condition.

The present prices of coal at the mine per ton are as follows: For slack of a poor quality, 9 francs (\$1.74); for mixed small coal, containing one quarter bituminous, 10 francs (\$1.93); and for mixed coal of all sizes containing one-half bituminous, 12 francs (\$2.32). The Fleunus, which is a coal special to Belgium, commands at the mine about 10 francs (\$1.93), slack, 12 francs (\$2.32) for a mixed small coal, and 14 francs (\$2.70) for a mixed grade containing both large and small. The demand for domestic coal is poor. The strikes have not materially reduced the stock at the mines, and, as the season is far advanced, business in this direction is not encouraging.

COKE.

This market is in a highly flourishing condition, and the products of the syndicate's ovens are controlled up to June 30 next. The price per ton of ordinary coke is 17 francs (\$3.28) and for the half washed, such as is in demand by blast furnaces, 20 francs (\$3.87).

On March 1, 1905, the administration of marine will sign a contract with the lowest bidder for the purchase of from 12,000 to 18,000 tons of coal briquettes.

METALLURGY.

This branch of Belgian industries has suffered little on account of the coal strikes, and is in good condition with prices satisfactory. In cast iron, refined iron, and steel the prices are uniformly maintained. The refined Luxembourg iron sells at 50 francs (\$9.65), that from Athus at 52 francs (\$10.04), and Charleroi 57 francs (\$11). The price of Thomas cast iron is 62 francs (\$11.97), blooms 95 francs (\$18.34), and billets 100 francs (\$19.30). The prices of rolled products are steadily increasing. Rails, bars, beams, sheet iron, and rods have a

ready sale at good prices. A good-sized contract has been let to Belgian firms for railway accessories.

BUSINESS AND THE LIEGE EXPOSITION.

Building is quite active and the car shops are kept busy constructing for the various tram and vicinal railways to be in operation for the coming Liege exposition. Business in every line seems to be in a good condition and a steady increase is expected from now on until the closing of the exposition.

JAMES C. McNALLY, *Consul.*

LIEGE, BELGIUM, *February 25, 1905.*

FIRELESS COOK STOVES.

(*From United States Consular Clerk Murphy, Frankfort, Germany.*)

In a recent address to an audience consisting largely of working people, Mrs. Back, wife of the director of the industrial school (Gewerbe Schule), at Frankfort, brought to the attention of her hearers the following interesting information in regard to a new article of kitchen furniture—the hay box, or fireless stove.

Every housewife knows that a pot of coffee can be kept hot for a considerable length of time, without the aid of fire, simply by wrapping it securely in a dry towel in order to hinder the escape of heat. It now seems very strange that the world has been so slow to make a practical and more extended use of this idea.

At the Paris exposition of 1867 much attention was attracted by a wooden box lined with wool and felt, which was called “the Norwegian automatic kitchen.” In this box food which had been boiled for only a very few minutes continued to cook slowly and in two or three hours was found to be ready for the table. For some unexplained reason all efforts to bring this useful novelty into general use proved unsuccessful until the matter was recently taken up systematically and with more enthusiasm in Baden. The propaganda is now being successfully pushed in Berlin, Munich, Frankfort, and other cities by means of popular lectures and public demonstrations of the convenience and practical value of this method of cooking.

Mrs. Back stated that she has now been using the hay box for thirteen years, and that it has greatly reduced for her the cares and annoyances of housekeeping. At first she used the box merely for the purpose of keeping finished food warm, but it was not long before she discovered that the process of cooking continued in the box. She thereupon extended its use, making a series of experiments which resulted in pleasant surprises. She soon found that she could finish in the box all boiled and roasted meats, sauces, fish, soup, vegetables,

fruit, puddings, etc. Of course the box can not be used for beef-steaks, cutlets, pancakes, and the like, articles whose chief attraction lies in the crispness resulting from rapid cooking on a hot fire, but when food of this kind is being prepared it is a great comfort to the housewife to know that the rest of the meal is ready and hot in the box.

In any household such a box will be found of great advantage, lessening the worries of the housewife and cook, and leaving much more time for other duties and recreations, but for working women it is more than this—it is almost indispensable.

A little patience and interest will secure all the experience that is needed and remove all doubts. A few experiments will teach how much preliminary cooking on the gas stove is required for different substances. In general, it will be found that two or three minutes of actual boiling on the fire is amply sufficient for vegetables, while roasted meat requires twenty to thirty minutes. Most articles should remain tightly closed in the box for two or three hours, though they can be left there to keep hot for ten or twelve hours, if necessary.

Rice, dried beans, lentils, dried fruit, etc., should first be well soaked in cold water. After being allowed to boil for from two to five minutes, one to two hours in the box will prepare them thoroughly for the table. Cabbage should be prepared the evening before it is to be used. It should be placed in the pot with very little water, cooked well in its own juice, and put overnight in the hay box. Just before dinner on the following day it should be warmed on the stove. Cauliflower and other soft vegetables should be merely brought to a boil and then placed for an hour or two in the box. It will be found that soups are greatly improved by being allowed to develop for two or three hours in the hay box. The covers of the pots should, of course, not be lifted when the pots are being transferred to the box. By the old method of cooking, it is necessary to boil dried beans two and one-half to three hours. When the hay box is used, boiling for five minutes will be found sufficient. This will give a clear idea of the amount of fuel saved.

Science teaches that many substances become ready for use as food at temperatures below the boiling point; and that, unless the pots are hermetically closed, a temperature exceeding 212° F. can not be attained, no matter how much fuel is consumed nor how long the boiling is continued. Accordingly, the object to be kept chiefly in view is to retain the heat as long as possible when it has once been developed.

One of the first things for a novice to learn is how much water to use. It will soon be found that too much is better than too little, and that if beans, peas, lentils, oatmeal, etc., have less water than they can absorb, they can not become properly cooked, no matter how many hours the process is continued. No water should ever be poured from

the pots, not even from potatoes, as it always contains valuable salts derived from the cooking substances whose loss must lessen the alimentary value of the vegetables or meat.

The hay boxes now being offered for sale in German stores are usually lined and partitioned with hay, felt, etc., and the receptacles are furnished with covers which can be securely locked. Such boxes are no doubt useful when food is to be transported—for instance, from restaurants; but there is one serious objection to them—their immovable felt and upholstery may become moist and moldy. A home-made hay box will usually be found cheaper and more practical. Almost any box will do which has a tightly fitting cover. The wood of which it is made should not be too thin, and of course there should be no knot holes or cracks. Old trunks and valises may sometimes be successfully utilized in this way.

The box should be loosely filled with shavings, paper, or hay—the last mentioned being probably the most satisfactory. The hay should be renewed every two or three weeks. Before the pots are ready the requisite number of nests in the hay should be prepared, and when the pots are placed in these holes the hay should be packed under and around them tightly. Any kind of pots can be used, although of course earthen ones hold the heat best. The tighter the tops fit the better, but if the food is to be used within six or eight hours, it is not necessary that they should be of a kind which can be hermetically closed. Ordinary tops will be found perfectly satisfactory. When the pots have been placed in the box carefully and without lifting the lids, they should be covered with a pillow and the lid at once securely closed.

When not in use, the box should always be left open and the hay loosened, the pillow being hung in the air to dry thoroughly.

The chief advantages of the hay box may be summarized as follows:

1. The cost of fuel can be reduced four-fifths, or even nine-tenths.
2. The pots are not made difficult to wash; they are not blackened, and they will last for an almost indefinite period of time.
3. The food is better cooked, more tasty, more nutritious, and more digestible.
4. Kitchen odors are obviated.
5. Time and labor are saved.
6. There is no need of stirring nor fear of scorching or burning.
7. The cares of the housewife are lessened, and her health and happiness are thus protected.
8. The kitchen need not be in disorder half of the day.
9. Warm water can always be had when there is illness in the house and during the summer when fires are not kept up.
10. Milk for the baby can be kept warm all night in a pot of water.
11. Where workmen's families live crowded in one or two rooms

the additional suffering caused by kitchen heat is obviated by the hay box, for the preliminary cooking can all be done in the cool of the morning.

12. At picnics the appetites of young people are only half satisfied by sandwiches and other cold food. The hay box can furnish a hot meal anywhere and at any time.

13. Similarly, men and women working in the fields or having night employment can take with them hot coffee, soup, or an entire meal, thus avoiding the necessity of returning home at a fixed hour or having it brought to them by another member of the family.

14. When different employments make it necessary for the various members of a family to take their meals at different hours, this can be arranged without a multiplication of work with the assistance of the hay box. Of course it is necessary that the box be kept perfectly clean, as otherwise it may become sour or musty.

GEORGE H. MURPHY, *Consular Clerk.*

FRANKFORT, GERMANY, *February 7, 1905.*

TRADE RIVALRY BETWEEN THE HUMBER PORTS.

(From United States Consul Hamm, Hull, England.)

The rivalry anticipated between the Humber River ports from the entrance of the Lancashire and Yorkshire Railroad into the shipping trade has begun already. The first manifestation is in connection with the Danish butter trade.

The English butter market is largely supplied by the Danish creameries. Hull and Grimsby on the Humber River and Newcastle on the Tyne River have been the chief ports of entry for this trade for northern England, while Manchester has been the chief distributing point. In 1903 Hull imported 659,789 hundredweight (73,896,368 pounds) of butter, of the value of \$16,822,450, almost all of which came from Denmark; Grimsby in the same year imported 423,276 hundredweight (47,406,912 pounds), valued at \$11,027,325, and Newcastle 574,958 hundredweight (67,395,296 pounds), valued at \$15,858,825. As the freight on butter from Copenhagen to Hull is 43s. 6d. (\$10.57) per ton, it is a well-paying cargo, and is much sought after by steamships.

A bill passed at the last session of Parliament gave the Lancashire and Yorkshire Railway the right to run lines of steamships in connection with their railroad. The eastern terminus of this railroad is at Goole, situated 20 miles west of Hull, near where the Ouse and Trent rivers unite to form the Humber River. From that city their lines branch out through central England. The butter which has come from Denmark has been distributed over this region mainly by the

Northeastern Railroad, but to secure this traffic for itself the Lancashire and Yorkshire Railroad has taken prompt advantage of its new privilege and established a line of steamships between Copenhagen and Goole. With fast boats and quick connections at both ports it has been shown that butter can be brought from Copenhagen to Goole in fifty-two hours, and distributed over the lines of the Lancashire and Yorkshire Railroad throughout central England in a few hours more. This makes quick transit and enables the markets to be supplied constantly with butter only three days old.

Goole has in past years entered very little into this trade, the total butter shipments to that port in 1903 amounting to only 6,007 hundredweight (672,784 pounds), of the value of \$145,220. But if the enterprise of the Lancashire and Yorkshire Railroad goes on unchecked Goole will soon become, next to London, the chief port of entry for the Danish butter trade in England. Hull, particularly, and also Grimsby and Newcastle, are watching this new development closely, as it may materially affect their trade and prosperity. They will have to offer as good facilities as Goole for bringing the butter from Denmark and distributing it over northern and central England if they are to retain their present share of this trade.

Only a very small portion of the butter imported into Hull comes from America. The ocean freight charges and the fact that it takes about six times as long to bring butter from America as from Denmark has made the trade unprofitable. Then intensive farming is not so general in America as it is in Europe. One interesting feature of this butter trade is the part played by the Cooperative Wholesale Society. This society buys all its butter in Denmark and imports it into England by way of Newcastle. This plan of going to the end of the line and avoiding middlemen is one of the reasons why cooperation has proved a success in England.

WALTER C. HAMM, *Consul*.

HULL, ENGLAND, *February 9, 1905.*

PLAN TO PROMOTE FRENCH COMMERCE.

Under date of February 13, 1905, United States Consul Edward H. Ozmun, Stuttgart, Germany, transmits the following translation of a leading article which appeared in *Le Matin* (Paris) of February 11, under the head "A grand project for the commerce of France:"

It would be dangerous to exaggerate the gravity of the seven treaties of commerce which the German Empire is making with seven of the principal States of central Europe; it would be childish to deny that they are of very great importance.

By these treaties, Germany binds its commercial interests to those of Russia, Italy, Austria-Hungary, Belgium, Roumania, Switzerland,

and for a period of twelve years to Servia. During those twelve years the powers of the old western world will find themselves in the presence of this new and formidable economic association of which Germany is the mistress and the president. During those twelve years Germany will be able to establish its economic power, consolidate its industry, and exercise its commercial supremacy upon the seas.

The question of how to meet these treaties presents itself to the powers who are not called upon to participate in them. The question that presents itself to France is, What line of conduct is she to follow, and how is she to protect her national commerce?

It would be puerile to deny that French commerce, in spite of prodigious efforts, is suffering, or at least is retrograding. Figures show that in spite of manufactories, ports, railways, geographical situation, and the effects of its colonies on its carrying trade, France, upon many seas, is inferior in its merchant marine to many powers, and especially to the German marine. Throughout the country complaints are heard that commerce is suffering and industries inactive, and France has no right to ignore these complaints. The diverse branches of national commerce are nothing but different members of the same body; if one of them is endangered or impoverished, the whole body is threatened. French commerce has done so much for the grandeur and prosperity of France that France should now do something for its commerce.

It is necessary that there should be an understanding and a complete union; that the diverse branches, instead of fighting one another, should defend and bring prosperity to the entire national commerce. So we ask that a congress shall be opened at Paris where those who are directly interested will be able to discuss all these grave questions. All those who really have the right to speak in the name of French commerce should assist in this congress—members of parliamentary groups of foreign commerce, members of the tariff commission, representatives of agriculture, of viticulture, delegations from all chambers of commerce, and of all export syndicates—in order that competent officials be appointed by the four great ministers of foreign affairs, finance, commerce, and agriculture.

A recent incident of this kind is remarkable: A minister of commerce created an expert committee on wine culture, through which a perfect understanding was produced by mutual concessions between the wine growers, traffic agents, chemists, and administration. Why not try, on a very much larger scale, the same means to attempt to guard the interests of our entire national commerce? Why not hold meetings concerning French commerce, where each branch will be represented, where each representative will be able to declare his needs, and also tell what sacrifice he is willing to make in the interests of all? Such meetings would serve all France.

We appeal then to all those of good will in all spheres of life and to all patriotic feelings, in order that this congress may convene as soon as possible here in Paris, and that from its labors may come a work really useful and truly French. It is not a question of overthrowing the economic system of the country, nor of imposing doctrines upon anyone; nor is it favoring protection or free trade; it is simply a question of defending the commerce of France.

CULTIVATION OF CHICORY IN BELGIUM.

(From United States Consul Roosevelt, Brussels, Belgium.)

During the months of January, February, and March attention is attracted to the immense quantity of a special vegetable sold by marketmen, greengrocers, and hucksters, and eaten by all classes throughout Belgium, prepared in various appetizing manners, and frequently eaten as a salad, either raw or cooked. I refer to the white chicory, the cultivation of which is a specialty of Brussels and its suburbs.

There are two species of chicory grown in Belgium. The wild chicory (*Chicorium intybus*), cultivated in the neighborhood of Roulers, Thourout, and one or two other localities, in close proximity to the chicory manufactories, where the roots of the plants are parched, ground, and sold loose or in half-pound packages, to be used in connection with coffee, especially by the working classes.

The white chicory was originally brought to Belgium from India, and the principal center of cultivation is in the immediate neighborhood of Brussels, especially in Schaerbeek, Evere, and Woluwe. The root of this plant is of inferior quality and is consequently used as cattle feed.

The growing of this essentially winter vegetable requires great care, trouble, and hard work, beginning early in April, when the seed is sown. As soon as the plants are an inch or two high they are carefully thinned out by hand, leaving the most vigorous undisturbed at a given distance apart. In September and October, when the plants are in full maturity and the leaves very long, they are taken out of the ground and the leaves carefully cut off about 2 inches from the root. Trenches are prepared, and the plants are disposed in them in three layers, each layer being covered by 10 inches of earth and from 12 to 14 inches of horse manure. This manure produces an artificial heat, which causes the chicory to sprout, and the earth being compactly pressed upon the plants, the leaves adhere closely together, and as no sunlight penetrates the covering, the plants are bleached white and present a most attractive and appetizing appearance when removed for consumption. This is done according to the demands of the market. The vegetable is available all the year round, but the most active demand is in the months of January, February, and March, during the scarcity of other garden vegetables.

The above-described method of bleaching chicory has existed since the commencement of the cultivation of this popular vegetable, but much complaint is heard concerning it, principally on account of the germs contained in the horse manure, which is likely to render the vegetable unwholesome and unfit for consumption, and also on account

of the danger of a sudden frost, which, by lowering the temperature of the manure covering, checks the growth of the plants and correspondingly affects the selling price. To combat these inconveniences the cultivators of chicory at Schaerbeek, one of the most important suburbs of Brussels, have for some time been experimenting—heating the layers of plants by the system of thermo-siphons. The system has the advantage of giving a regular, constant heat, and greatly reduces the manual labor connected with the cultivation.

Although an immense quantity of chicory is consumed in Belgium, the yield is sufficient to supply Paris with large quantities, where it is largely used in the hospitals of that city. The average wholesale selling price in Belgium is 7 cents per kilogram (2.20 pounds), and in Paris from 14 to 16 cents. To perform all the different operations connected with chicory growing demands hard work and constant attention. The most dangerous part of the work is the loading and transportation of manure, which has to be done before 8 o'clock in the morning. The great differences in the temperature of the cavalry and other stables, where the horse manure is obtained, and the temperature of the outside cold and chilly morning air frequently results fatally to the men employed in this work.

GEO. W. ROOSEVELT, *Consul*.

BRUSSELS, BELGIUM, *March 2, 1905.*

GARDENING UNDER GLASS IN ENGLAND AND FRANCE.

(From United States Consul Halstead, Birmingham, England.)

A letter was recently written to a local paper suggesting that a trip be arranged to give the gardeners of Evesham, Worcestershire, England, an opportunity to see how the French gardeners cultivate vegetables by the means of glass and make their early produce so great a factor in supplying the London market. The suggestion was acted upon, and a short time ago a party of thirty vegetable growers, large and small, started for Paris. The Evesham growers saw the gardens at Vitry-sur-Seine and found these to consist chiefly of 2-acre lots, practically all given up to the growth of early lettuce and other vegetables under glass. The Evesham men thought the soil not naturally better than that in the vale of Evesham, but found that it had been so carefully prepared for so long a time that practically there is not a bit of natural soil in a garden. The methods of preparing this soil and the general methods in use in raising the vegetables as reported by the Evesham men and printed in the Birmingham Daily Mail should be of interest to our Agricultural Department, and are as follows:

The plan adopted is something of this kind: At the bottom of the seed bed, from which all the top soil has been removed, is a hard bed

of clay, and upon this is placed a quantity of stable manure, the stronger at the bottom. Over this is spread about 3 inches of the prepared soil. The lettuce is planted in this in August, the frames are placed over the plants, and they are now coming into the market. When the crop has been marketed the bed is cleared and the soil and manure mixed well together and built up in mounds to rot. This process takes one or two years, and then this soil is used again to place on the manure. As a consequence the soil is always of the very best and most fertile.

The frames, which are 13 feet long by 4 feet 6 inches wide, are 9 inches high at the top and 7 inches at the bottom, so that they have a gentle slope to the south. There is no artificial heating except that provided by the manure, but the lights are covered with straw mats, which are very carefully made by elderly men, and which easily roll up. These mats would be very useful for Evesham radish beds, and would prevent a good deal of waste and loss. Water is laid onto nearly every frame by means of pipes from a raised tank, which is filled by a pump, generally driven by horsepower, but sometimes by a gas engine. Great care has to be taken in the ventilation of the frames or damping off may set in. The frames cost about 13s. [\$3.16] if bought in large quantities, but they can be obtained for less money in England. They are only used for the raising of cabbage or flat lettuce, and these are planted in rotation, so that as soon as one lot has been marketed another is ready to come in.

In addition to lettuce, carrots and radishes are planted in the frames, and these come in after the lettuce have been cleared off. Cos lettuce is grown under big glass globes or bells, which cost about a shilling [24 cents] each, and which can be supplied in Evesham at about 1s. 4½d. [33 cents]. About six plants are put under a bell, and when they have made a fair growth three of them are transplanted. After a little time another transplanting takes place, and only one is left under each bell, but so that no space may be lost flat lettuce are placed round each.

The frames, again, are utilized for the raising of cabbage and cauliflower plants, but despite this help the plants seen this week were at least a fortnight behind those grown at Evesham in the open. This does not seem to show that the climate round Paris, at any rate in the winter, is any warmer than it is at Evesham.

An asparagus bed was also seen in which a system of culture different from that in vogue at Evesham is used. The roots of this particular bed were exposed to the weather, but they will now be covered with a coating of stable manure and then the earth will be replaced a little at a time. The result is the production of some very fine "grass."

This system is carried out round Evesham, in some instances, with excellent results. Covent Garden (London) was visited as the party passed through London, and the Paris market was also seen, with the idea of instilling into the local growers the necessity of paying more attention to the packing and grading of their produce.

The Mail states it is hoped to organize further excursions into the fruit-growing districts of France, Germany, Netherlands, and Belgium; and arrangements are already being made for another trip in May to France to see how black currants are grown there. The advantage of the French system is that it brings a crop every year, while in Evesham one is gotten only about every three years. The gardeners

thought they could compete successfully with the French growers, though they would have to bring their manure from London or Birmingham, but could get it at from 5s. to 6s. 6d. (\$1.21 to \$1.57) per ton, while the French have to pay at least 5s. 6d. (\$1.33) at Paris.

One of the French gardeners said that his working expenses were as heavy as those of the Englishman. To cultivate 2 acres of land his annual expenses were £600 (\$2,919.90), but despite that he could send lettuce to London and compete successfully with the English gardeners.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *February 3, 1905.*

SWISS-SPANISH COMMERCIAL TREATY.

(From United States Consul-General Ridgely, Barcelona, Spain.)

The existing commercial treaty between Spain and Switzerland will lapse on August 31, 1905, and unless before that date a new treaty be arranged or some *modus vivendi* adopted a tariff war may ensue which may seriously affect not only the trade of the two countries named, but also Spain's trade relations with other continental nations with which she has commercial treaties based on the "most-favored-nation" clause, the Swiss treaty being responsible for many articles being now appraised at a lower rate of duty than that provided for in the second or lower scale of the present tariff, which will become operative the moment the Swiss treaty terminates.

It is reported that negotiations are in progress for prolonging the duration of the present treaty pending the proposed revision of the existing tariff, and it is hoped that this will be done, for not only would it be impossible to draw up a new treaty before the date mentioned, but a very strong feeling prevails in Spain against making any new commercial treaties until the tariff now in force be brought more into line with the present needs of Spanish trade.

In order to ascertain the views of merchants and manufacturers the Government some time back issued a circular to the various chambers of commerce and other trade organizations calling for expressions of opinion regarding the revision of the tariff. These reports have now been sent in, and will doubtless receive the careful consideration they deserve. Naturally the conflicting interests of the agricultural and manufacturing districts will give rise to long discussion before any alteration can be made in the tariff, so that no new treaties are likely to be concluded for some time.

The termination of the Swiss treaty would indirectly affect American manufacturers, inasmuch as by the increase of duties for favored nations the discriminating rates against American goods would be reduced. The principal imports into Spain from Switzerland are cheap watches and clocks, St. Gall and Zurich embroideries, con-

densed milk, machinery, and machine parts. The United States formerly had the leading place in the Barcelona market for cheap watches, alarm clocks, and similar products, but the discrimination of the tariff in favor of Switzerland and the other favored nations was more than our goods of this character could contend with. As a consequence we have virtually lost our place in the market. If, however, the existing Swiss-Spanish treaty should not be prolonged our exporters of cheap watches, alarm clocks, etc., may again be able to profitably turn their attention to Spain.

BENJ. H. RIDGELY, *Consul-General*.

BARCELONA, SPAIN, *February 16, 1905.*

COFFEE CROP OF HAITI.

(From United States Minister Powell, Port au Prince, Haiti.)

The coffee crop of Haiti will be only about 50 per cent of last year's crop. Coffee is the leading product of the Republic, and it is largely through the revenue derived from it that the Government meets its current expenses and pays its foreign obligations.

From some sections where a large crop was expected and has, up to this year, never failed, reports have been received that the crop has been gathered and that there is little more to come in. Leading exporters of coffee inform me that they hope to receive some coffee yet from the south, but that the quantity will be very small. The reason given for the failure of the crop is the excessive rains in the early part of the season, which prevented it from maturing. Aside from the loss to the Government, great distress will prevail in the country districts, where the main reliance of the people is upon a full, or at least an average, crop.

Commerce will feel the failure of this crop as much as the country or peasant class, as it is the exportation of coffee that makes possible the importation of goods. In the last few months importations have been extremely small. In connection with this fact and the high rate of exchange, but little importing is being done.

W. F. POWELL, *Minister*.

PORT AU PRINCE, HAITI, *January 4, 1905.*

INSURANCE FOR WORKMEN IN FOREIGN COUNTRIES.

(From United States Consul Haynes, Rouen, France.)

In many countries the question of insurance for workmen has received a more or less practical solution. It is in operation, obligatory or voluntary, in England, Belgium, Austria, Denmark, Sweden, Norway, Hungary, Italy, Finland, Switzerland, New Zealand, and Germany.

ENGLAND.

In England there is a voluntary insurance against disability, which assures to those employed in industrial or agricultural labor and who do not gain more than \$480 a year an annuity as high as \$480, of which the average, however, is \$85.

BELGIUM.

In Belgium the insurance against accident and disability is obligatory for miners. Moreover, since January 1, 1900, the Government has a national fund for retiring pensions, which is voluntary, and insures to each of its members when 65 years old a pension of \$69.50.

AUSTRIA.

The insurance of miners has also been compulsory in Austria since 1889. The least insurance is \$41 for men and \$20.50 for women. Insurance against sickness and accident is also obligatory for those employed in industrial and agricultural pursuits, but accident insurance can in no case exceed 60 per cent of the annual wages.

DENMARK.

From the sixtieth year in Denmark the needy receive help in varying proportion, the State and commune contributing equally.

SWEDEN.

For the last fifteen years a workman's insurance committee has existed in Sweden, and since 1886 the Riksdag has put aside yearly \$428,800, which sum is to cover the first expense when the law for the insurance of workmen is voted. The maritime city of Gottenborg, so renowned for its excellent habitations for workmen, its public assistance, its administration, etc., is the first city in the world to solve successfully the question of insurance for workmen employed in the city's public works. The number of these in Gottenborg is 1,500. In 1891 the municipality voted that a retiring pension should be accorded all superintendents, chiefs, inspectors, and workmen employed by the city. To come into possession of this pension one must be 65 years old and have served the city for thirty years. Special occasion allows the pension to be granted at 65 years of age and twenty-five years of service. The latest law, of 1898, divides the pensions into five classes, the first of which gets \$289, the second \$193, the third \$145, the fourth \$96, and the fifth \$80. The sums of the first four of these equal 60 per cent of the annual salary.

NORWAY.

In Norway accident insurance for all industrially employed workmen whose salary does not exceed \$290 is compulsory.

HUNGARY.

In Hungary insurance is obligatory for employees of both sexes working in industrial establishments, mines, furnaces, quarries, dock yards, railroads, interior navigation, posts, telegraphs and telephones, and in commerce if their wages do not exceed \$2.15 a day. All members are assured (1) free medical treatment, together with medicine, for twenty weeks; (2) food for at least twenty weeks; (3) aid in childbirth, and (4) burial expenses.

ITALY.

There exists in Italy a voluntary insurance against sickness and disability and an obligatory insurance against accidents. For a disability pension one must have been insured for twenty-five years and be 60 years old.

FINLAND.

All workmen in Finland are authorized to insure against sickness, the cost of which is borne equally by the employer and employee. All differences are settled by arbitration. Every workman in an industrial establishment gaining more than \$145 is compelled to insure against accidents. The accident fund, to which the workman contributes nothing, is created by the employers and the State.

SWITZERLAND.

On October 25, 1899, the Federal Council of Switzerland voted, in every canton, a compulsory insurance law against sickness and accident, based, with a few modifications, upon the principles of the German law. This failed to satisfy the people, and it was rejected May 20, 1900, by a vote of 341,914 against 148,035. The Federal Council some time after asked the permanent commission of workingmen's insurance to draft a new law better suited to the needs of the country. It is also a question in Switzerland to create compulsory insurance against old age. At present railroad and steamboat workmen are admitted to the pensions created by these two enterprises. These pensions are under the control and supervision of the state.

NEW ZEALAND.

A pension of \$87 is allowed by the government of New Zealand to the indigent aged who have inhabited the country uninterruptedly for twenty-five years without any legal condemnation. Every old person who has come to the pension age gets the entire pension, if he has a personal revenue of \$164 or more. For each \$4.80 above, the law diminishes his pension accordingly.

GERMANY.

There is perhaps no country in the world where workmen are so protected by the State or are so cared for as in Germany. Even clerks,

shop assistants, and servants are compelled to insure. This insurance is effected by pasting into a book certain stamps every week, and it is the duty of every employer to see that this is faithfully done.

In the German Empire there are three insurances for workmen, all of which are obligatory and under the authority of the Imperial Insurance Office, viz: Sickness, accident, old age, or infirmity. This insurance is mutual, and its administration autonomous under State control. It embraces, without distinction of nationality, all persons working in Germany.

INSURANCE AGAINST SICKNESS IN GERMANY.

Insurance against sickness is especially for those occupied in industry and commerce receiving a yearly salary of \$480 or more; but the law allows other workmen, comprising domestic servants, voluntarily to take advantage of it. It has 22,672 local offices, and 9,500,000 workmen get the yearly benefit of \$36,500,000. The object of this insurance is to guarantee to the insured a sure and efficacious aid for at least thirteen weeks from the beginning of sickness.

The minimum advantages to which all insured have a right are:

1. The free services of a physician of the local bureau, or, in case of urgency, of any physician.

2. In case of inability to work, daily assistance (50 per cent of daily salary), beginning from the third day of sickness, or the gratuitous services of a hospital with 25 per cent of the daily salary given to the family.

3. In case of death, funeral expenses equal to twenty times the daily salary.

4. Four weeks' gratuitous aid in childbirth.

5. Double insurance to anyone paying double.

6. Anyone falling sick in a locality outside his own is cared for by that locality, the expenses being reimbursed by the home locality.

7. No sick persons, whoever they are, can be excluded from their insurance rights.

8. When disability still exists at the end of thirteen weeks the sick have a right to another thirteen weeks of gratuitous medical service before benefiting by the law for the disabled.

In 1898 there were 3,276,500 German workmen insured against sickness, the gratuitous services to whom amounted to over \$33,000,000, while the expense of administration cost only \$1,973,232.

When an insured person falls sick in a locality not his own, his home bureau can ask the bureau of the locality where he is to take care of him, which is done until the insured is able to be sent home. When the insured falls sick in a foreign country his employer looks after him and is reimbursed by the local bureau. Public assistance given in case of urgency is also reimbursed by the local bureau. No sickness

is excluded from the benefit of insurance. If the sickness or disability is due to a row, or fight, money, but not medical aid, can be refused.

The law limits the assessment of members for communal insurance against sickness to from 1 to 1.33 per cent of the average earnings of an ordinary workman, and from 2 to 3 per cent for other bureaus. It also compels the employers to pay a supplement of one-half of what his employees pay. Two-thirds of the assessments are therefore furnished by the workmen and one-third by the employers. The bureaus of all insurance against sickness are administered by those interested, the employers and employees, under the direction of the local authorities.

GERMAN ACCIDENT INSURANCE.

Workmen in the industries and in agriculture, etc., farmers, renters, day workmen, etc., gaining less than \$482, must insure against accident. In certain cases those gaining more than \$482 are allowed, and sometimes compelled, to insure. A complementary law insures soldiers against accident, and the aid to all the employed in the Empire embraced in the insurance law against accident, is in the form of State pensions. This insurance is an employers' mutual insurance with a State guaranty, and its bureaus have a civil personality with complete administrative independence.

Every one insured in case of accident during work at a wage has right to gratuitous medical treatment. If the wounded is not insured against sickness, the owner of the establishment in which he is employed must accord to him from his private purse the same treatment he would have received from the bureau of insurance against sickness had he been insured therein. If the wounded is also insured against sickness, his pecuniary aid can amount to two-thirds of his wages. Builders and farm and forest workmen are treated for the first thirteen weeks at the expense of the commune in which the accident occurred. To prevent the necessity of paying a pension of disability the accident insurance bureaus are authorized, whenever it seems that the bureaus of insurance against sickness are unable to furnish the necessary assistance, to take the treatment of the patient in charge. These bureaus are not compelled to indemnify the wounded, but in some cases they can allow pecuniary aid. Gratuitous cure in a hospital, beginning with the fourteenth week, can replace the expense of treatment and provisional pension. The admission to a hospital comprises gratuitous attendance, the expense of going and returning, and clothing, and, during the treatment, an indemnity to the family of the victim, to which indemnity a wife, though married after the accident, has a right.

Accident insurance pensions are not calculated according to the personal gain of the victim, but according to the average wages fixed by

age and sex. The amount paid in by employers is not determined by the number of workmen employed, but by their direct taxes. Small proprietors can be exempted, totally or partially, from any dues.

Perhaps one or two examples would show more clearly the work of German accident insurance:

A mason, married, earning \$305, falls from a scaffolding, breaking his leg. The first three weeks he is looked after and all expenses paid, by the bureau of insurance against sickness. Beginning with the ninety-first day he is treated for ninety days more in the hospital at the expense (\$75) of the bureau of accident insurance. His family, a wife and two children, are paid \$38. If at the end of twenty-six weeks he is totally unable to work he receives an annual pension of \$203.25. Should he die from the accident the bureau pays \$20 as burial expenses, and the wife and children, if the two latter are less than 15 years of age, receive \$153, and the widow receives a pension until she dies or remarries, and the children until they reach the age of 15.

A blacksmith earning \$256 accidentally loses a finger. The diminution of his capacity to work is indemnified by a payment of 10 per cent of his wages and an annual pension of \$17.

A farm hand injures his knee. He receives one hundred and five days' treatment in the hospital, which costs the rural accident bureau \$38. His family is given \$19, or one-seventh of the average annual wages. Upon leaving the hospital the man has lost 90 per cent of his capacity to work, and so receives an annual pension of \$78. If he dies the accident bureau pays the burial expenses of \$9 and pays annually to his family \$65.

DISABILITY AND OLD-AGE INSURANCE IN GERMANY.

This insurance in the German Empire is obligatory from the sixteenth year, and embraces every workman earning over \$482. It is optional for workmen whose annual earnings are more than \$724. The resources for this insurance are furnished by the employer, the employed, and the State, the latter giving toward each pension a uniform subvention of \$12 and paying the workman's dues during the time he is serving his military term. All remaining expenses are shared equally by the employer and employee, who pay according to the five classes into which the Imperial Insurance Office has arranged the insured, viz: (1) Workmen gaining no more than \$84 pay 3.3 cents per week; (2) a wage not greater than \$133 pays 4.8 cents weekly; (3) a maximum wage of \$205 pays 5.8 cents; (4) a maximum wage of \$277 pays 7.24 cents, and (5) a wage between \$277 and \$482.50 pays 8.68 cents weekly. The amount paid by the workman is deposited in the bureau by the employer, who buys special stamps and affixes them

to the employee's receipt, after having deducted from his wages the amount due.

The minimum of a disability or infirmity pension, which is not allowed for less than two hundred weeks' work, is \$28 for the first class, \$31 for the second, \$32.50 for the third, \$34 for the fourth, and \$36 for the fifth class. After fifty years or two thousand weeks of work these pensions are increased to \$44.75 for the first class, \$65 for the second, \$79.50 for the third, \$94 for the fourth, and \$108.50 for the fifth.

An old-age pension is paid to every insured workman of 70 years or over who has deposited not less than 1,200 weekly dues. The dues deposited for the employee by the State during military service is counted among these 1,200 as well as temporary interruptions. Old-age pensions of the first class amount to \$26, second class \$34, third class \$41, fourth class \$48, and fifth class \$55.50.

THORNWELL HAYNES, *Consul.*

ROUEN, FRANCE, *February 13, 1905.*

COAL MINING AND RAILWAY DEVELOPMENT IN MEXICO.

(From United States Consul Martin, Ciudad Porfirio Diaz, Mexico.)

The principal mining developments in this section relate to coal, and there are a number of companies operating within this consular district, along the line of the Mexican International Railroad. The most important companies are at Baroteran, Sabinas, Hondo, and Fuente.

The Mexican Coal and Coke Company is the most extensive in its operations. This company was organized under the laws of New Jersey, and has a capital of over \$2,000,000 gold. The officers are James T. Gardner, president; Charles F. Peabody, of the banking house of Spencer, Trask & Co., New York, treasurer, and Edwin Ludlow, general manager, with headquarters at Las Esperanzas, Coahuila, Mexico. This company is operating several mines on its properties at Las Esperanzas and Conquista. The output now averages about 40,000 metric tons per month. The coal, I am informed, is all sold in Mexico, with the exception of some shipments to Texas foundries and to the copper smelters in Arizona, and of some 5,000 tons manufactured into coke. It is intended to increase the present output very materially, depending very much on the supply of labor. I am informed that 3,000 men are steadily employed by this company. A majority of the miners are Mexicans, but recently 350 workmen have arrived from Japan. There are also a few Chinese and some American negroes employed. The town which has grown up around these mines has a

population of about 9,000. The mines have been in operation for about four years. Prospecting and construction work dates somewhat further back.

The Coahuila Coal Railway, owned and operated practically by the same investors, has just been extended to the town of Muzquiz, making the total length of the road from Baroteran to Muzquiz, about 25 miles. This road was formerly operated between Baroteran and the mines in handling the material and fuel of the company, but will at once be opened for the service of the public. It is thought that the building and opening of the road to the public will facilitate the development of additional mines of the company in the vicinity of Muzquiz, and possibly other companies on adjacent properties. Mr. Ludlow, the general manager, thinks that better and cheaper transportation facilities will enable several low-grade metal properties to be successfully operated in the district, which are now idle, owing to uncertain and expensive cart haulage. The company owns and rents to its employees about 1,250 houses of various classes and sizes, runs a big company store, and furnishes to its employees and others all the goods usually used in such a settlement. They keep a general assortment of merchandise, consisting of dry goods, groceries, notions, furnishings, hats, shoes, etc. All or nearly all of these goods are imported from the United States.

At Hondo, not far from the Las Esperanzas mines, on the line of the Mexican International Railroad, large mines are being operated by the Compañía Fundidora de Fierro Acero de Monterey. This company owns a large foundry and steel plant at Monterey, and has also large interests in coal mining, both in Nueva Leon and in Coahuila. I corresponded with the company with a view of getting a definite idea of the extent of their operations in coal mining, but the information furnished was very meager—that the company is capitalized at \$10,000,000, all of which had been paid in; that in addition to the large steel plant at Monterey, it is operating large coal properties in the States of Nueva Leon and Coahuila, on the banks of the Rio Grande, and that its annual output of coal is something like 150,000 tons. I learn from other sources that the works of the company at Hondo are quite extensive, something like 1,000 men being employed. The company's plant is connected with the Mexican International Railroad by a short line, about 12 miles in length. The company also handles large quantities of goods, imported from the United States, to supply the demands of its employees.

I am informed that a new company is now putting down a coal shaft at Sabinas; in fact, several shafts are being opened near there. Sabinas is a station on the International Railroad, 72 miles south of this city, and I am informed that large expenditures of capital are being made, and a great volume of business is expected to be done at that place

during the current year. There are also extensive coal works at Fuente.

The foregoing mines ship their coal into the interior of Mexico to cities along the several railroads, including the City of Mexico. The factories, and especially the smelters, demand large quantities of coal, and I am told that the market has not been overstocked, and that there is a growing demand for the product of these mines. At and in the vicinity of the mines business of various kinds is flourishing, notably the sale of dry goods, groceries, ladies' and gentlemen's furnishings, hardware, mining and farming implements, etc.

It is the policy of the Mexican Government to protect the several industries growing up in the Republic by so arranging tariff duties as to give the infant industries a chance to grow and become thoroughly established. I am told that it is the intention in the near future to put in force a law to discourage the export of hides and skins by largely increasing the export duty thereon.

LEWIS A. MARTIN, *Consul*.

CIUDAD PORFIRIO DIAZ, MEXICO, *March 1, 1905.*

CANADIAN SPECIAL DUTIES.

(From United States Commercial Agent Johnson, Stanbridge, Quebec.)

The new instructions issued by the Canadian department of customs decide that the following articles are subject to the special or so-called "dumping" duty if sold at a reduced price for export:

Silver stampings and castings, dental chairs, lumber, combs, corn-cutters for canning purposes, wood screws, windmills, sewing machines, harness straps, stovepipe registers, wire rope, spring steel (2½ to 5 inch from one-fourth to one-half-inch thick for railroad springs), axes, iron pipe fittings, roasting or dripping pans (sheet iron), safety pins, scales, tanged table cutlery, pumps and valves (invoice), lawn mowers, saddlery, hardware (invoice), cameras, antimonial lead, milk food, veneer butter dishes, rubber balls, watches, box carts, shoe polish and dressings, lace collars, hosiery, core compound for foundry purposes, rubber boots and shoes, Portland cement, roasted coffee, illuminating oil, sardines, enameled bath tubs, porcelain sinks, dry red colors, cocoa butter, hops, gas-burners, cast-iron tinned hollow ware, cast-iron maslins, candied peel, jams, golden sirup, door checks and springs, rock drills.

The following articles are declared to be exempt from special duty: Waterproof drawing ink, anvils, razors, "universal" bread mixers, differential pulley blocks, hemp fuse, dried currants, olives in brine, common window glass, children's water colors, sewer pipe (30 inches in diameter), ribbon gold leaf, cane molasses, dressed skins of animals such as are not produced in Canada.

By regulations under the provisions of section 19 of the customs tariff amendment of 1904, books such as are not copyrighted or published in Canada are exempt from special duty temporarily until otherwise ordered.

Steel angles 2 by 2 inches up to 5 by 5 inches, or from 4 to 10 united inches wide and not less than 55 feet long, are exempt from special duty under temporary regulations when imported by bridge builders upon declaration on the face of the entry that the angles are for use only in the construction of bridges and are not to be used in lengths under 55 feet.

The following decisions by the board of customs are announced: Alvina table salt, 25 per cent; bells of all kinds, when imported for use in churches, free; chocolate paste color, 25 per cent; creamania, per sample submitted, 50 per cent.

FELIX S. S. JOHNSON, *Commercial Agent.*

STANBRIDGE, QUEBEC, *March 9, 1905.*

STEAMSHIP LINE BETWEEN CANADA AND FRANCE.

(From United States Consul-General Foster, Ottawa, Ontario.)

The Dominion government, February 9, 1905, entered into a contract with the Allan Line for a steamship service between Canada and France. The ports of call in France will be Havre and Cherbourg. In Canada the summer ports will be Montreal and Quebec, and in winter Halifax and St. John. The government is to pay the steamship company a subsidy of \$100,000 for eighteen trips, or \$133,333 for 24 trips.

The steamers to be employed in the service are the *Laurentian*, 4,522 tons; the *Pomeranian*, 4,258 tons; the *Sardinian*, 4,349 tons; and the *Buenosayrean*, 4,164 tons. The contractors have the right to extend each east-bound trip to a port in Great Britain, but the first port of call after leaving Canada must be a French port, and the last port of departure for Canada must be a port in France. A speed of not less than 10 knots must be maintained while vessels are at sea. Cold storage must be provided of a character and capacity approved by the minister of trade and commerce, who also may at any time revise the freight rates to be charged on all articles or classes of goods. In no case can any discrimination be made against Canadian merchants or shippers.

The contract with the Compagnie Trans-Atlantique Line for a France-Canada steamship service was terminated some months ago, and the present contract with the Allan Line is to take its place. The Allan contract is to expire in November, 1908.

JOHN G. FOSTER, *Consul-General.*

OTTAWA, ONTARIO, *March 9, 1905.*

COFFEE EXPORTS OF COSTA RICA.

(From United States Vice-Consul Caldwell, San José, Costa Rica.)

In the following table of exports of Costa Rican coffee for the year ended September 30, 1904, the figures given under the head "in husk" represent "net clean coffee," 18 per cent allowance for husk having been deducted in each case:

Exports of coffee from Costa Rica to the several countries during the year ended September 30, 1904.

Country.	Quantity.		
	In husk.	Clean.	Total.
	Pounds.	Pounds.	Pounds.
England	14,982,903	5,059,017	20,041,920
United States	263,736	1,498,000	1,761,736
Germany	880,857	714,821	1,595,678
France	51,936	475,896	527,832
Austria-Hungary	42,394	10,317	52,711
All other countries		189,626	189,626
Total	16,221,826	7,947,687	24,169,506

From the foregoing it appears that over 80 per cent of the crop went to England, 7 per cent to the United States, 5.7 per cent to Germany, and 2.2 per cent to France. Of the coffee entered for export to the United States, 642,440 pounds went to San Francisco, 25,446 pounds to New Orleans, and 1,093,849 pounds to New York.

The proportion of the entire crop of 1904 shipped in husk was 71.42 per cent and clean 28.58 per cent. The average price, as estimated by the statistical office from records of sales in the London market published in the *Credit Lyonnaise*, and estimating the price in other markets as 20 per cent less, was 24½ cents (American) per kilogram (2.2 pounds). On this basis the value of the net crop of 1904 was \$2,685,988.

Compared with the crop of 1903, there was a falling off of 4,754,188 kilograms (10,483,084 pounds), but the average price was one-half cent per kilogram (2.2 pounds) more than that of the crop of 1903. The falling off was due to exceptional circumstances. The unusually long dry season resulted in a greatly reduced crop on the Pacific slope, the yield in some places being less than one-half the normal crop, in some one-third less, while in other places there was practically no crop at all. As all the coffee shipped to San Francisco grows on this slope, this shortage accounts for the small percentage of the crop which went to the United States as compared with ordinary years. The shortage on the Pacific slope would have been more than made good by the crop on the Atlantic side had there not been unusually heavy and protracted rains in December, 1903, in the middle of the picking season, which caused a large part of the ripe berries to fall from the trees, the most

of which were a total loss. So, between dry in one locality and wet in another, the total crop suffered a substantial diminution.

CHAS. S. CALDWELL, *Vice-Consul*.

SAN JOSÉ, COSTA RICA, *February 18, 1905.*

AUSTRALIAN TRADE WITH THE PHILIPPINES.

Under date of February 7, 1905, United States Consul F. W. Goding, of Newcastle, New South Wales, transmits the following extract from the Sydney Daily Telegraph relative to Australian trade with the Philippines:

The minister for mines and agriculture has received a report from Mr. J. B. Suttor, the commercial agent in the East, with reference to trade with Manila, P. I.

He forwards particulars of an inquiry for 12,000 pairs of shoes of canvas material, for the use of the Philippine constabulary. A copy of the specifications may be seen at the department of agriculture, the chamber of manufactures, and the chamber of commerce, Sydney. Tenders were to be received by the assistant chief supply officer, headquarters Philippine constabulary, Manila, on February 1, 1905. Copies may also be seen at the same time of a specification of general supplies required by the constabulary. Although the date for the reception of tenders has expired, the particulars were forwarded in order to show the nature of the requirements, and enable firms to be better prepared when tenders are again called. Tenders are called half yearly for the constabulary, and also for the requirements at the Billibid Prison, at Manila, where a large number of prisoners have to be provided for.

Mr. Suttor says the Americans have wisely put a stop to the uncertain currency business, and in lieu of the fluctuations of the Mexican dollar have introduced the Philippine peso, in value just half of the American dollar, and equal to 2s. 1d. sterling. In the hands of the Americans this Philippine currency has all the security of the gold standard. Now that the vexed question of uncertain currency has been finally settled in the Philippines, satisfactory trade developments are looked for.

Imports into and exports from the Philippines up to September, 1904.

Country.	Imports.	Exports.
Foreign	\$25,979,935	\$17,765,647
British	8,753,290	19,739,061

The Australian trade shows an increase of \$106,316 for exports and an increase of \$489,643 for imports, compared with the previous year.

Mr. Suttor expects contracts will continue to be let from time to time for frozen beef and mutton, as there is every reason to expect a prolonged stay of the troops at the islands, and even apart from this

some very large works are likely to be pushed forward in connection with the development of the Philippines. The following beef products were imported into Manila during the year ended September 1, 1904: Canned beef, \$23,460; fresh beef, \$208,130; salted beef, \$520; cured beef, \$140; jerked beef, \$85; beef tallow, \$1,562; total, \$233,406. In connection with the above, fresh beef shows an increase of over \$125,000, compared with the previous year.

During 1904 fresh mutton was imported to the value of \$19,000. Mr. Suttor does not think any cross-bred mutton has reached the Manila market, and if he may judge by inquiries he would say a trial shipment would prove satisfactory.

Of hog products, including bacon, hams and shoulders, canned pork, fresh pork, salted and pickled pork, and lard, \$476,565 worth was imported during 1904, a considerable increase compared with the year 1903, and it would be well for New South Wales exporters to keep the market in view and endeavor to obtain a footing.

ENGLISH STARLINGS IN AUSTRALIA.

(From United States Consul-General Bray, Melbourne, Victoria.)

The English starlings, first introduced here from Great Britain for the destruction of insects, and protected by law, have completely changed their habits, and have now become a serious pest to orchardists. The few pairs of these birds brought into the State a few years ago have increased to myriads, and have become so destructive to the fruit industry that the regulations framed for their protection by law have been repealed, and energetic steps are advocated for their eradication. The fruit destroyed by them includes peaches, pears, cherries, figs, apricots, plums, grapes, strawberries, and apples. Both vine growing and fruit growing are seriously threatened if the pest is not suppressed.

From many districts reports come that fruit growing will have to be given up unless some radical steps are taken. As many as ten cases of apples have been destroyed by a flock of these birds in less than half an hour. Valuable insect-eating birds, such as kingfishers, diamond birds, tree swallows, and tree creepers, are being driven out of their nesting places in tree hollows by swarms of starlings, and before long the birds so useful to the farmer and orchardist will be driven out of the State. The starling is said to raise five broods in a year and multiply with amazing rapidity. In one district three years ago not one was to be seen; now there are thousands.

The Royal Agricultural Society of Victoria and all other similar associations are uniting in a request to the Government to take active steps to eradicate the pest.

JOHN P. BRAY, *Consul-General.*

MELBOURNE, VICTORIA, *February 22, 1905.*

COAL TRADE OF THE HUMBER PORTS.

(From United States Consul Hamm, Hull, England.)

The Humber River is one of the chief outlets for the export coal trade of England. The Humber penetrates far into the interior, and its tributaries and canals offer unsurpassed lines of communication to the coal mines of Lancashire and southwestern Yorkshire. Where there is no water communication the numerous railroads serve as carriers from the mines to the ports. Within the area tributary to the Humber River ports it is estimated that there are 40,000,000,000 tons of marketable coal yet to be mined. Hull is the largest receiver and exporter of this coal, the yearly average receipts being about 3,500,000 tons, about 2,000,000 tons being for home consumption. Hull also exports about half the amount that goes abroad from the Humber ports. This coal is sold here at an average price of \$2.65 a ton.

Germany, Netherlands, Russia, and Sweden take about two-thirds of the shipments, which go chiefly to the Baltic ports. Hull's exports of 1,564,023 tons in 1903 and 1,581,190 tons in 1904 were distributed among the following countries:

Exports of coal from Hull, England, to the several countries in 1903 and 1904.

Country.	1903.	1904.	Country.	1903.	1904.
	<i>Tons.</i>	<i>Tons.</i>		<i>Tons.</i>	<i>Tons.</i>
Africa	190	7,107	Jersey and Guernsey.....	11,795	9,415
America, North	121,035	3,333	Malta		3,268
America, South	102,667	78,166	Portugal	1,200	
Austria	19,052	17,513	Russia	338,251	354,185
Belgium	43,760	57,781	Spain	8,564	4,394
Denmark	58,293	52,629	Norway	28,309	23,413
East Indies	15,664	10,531	Sweden	418,554	458,354
Egypt	19,809	48,622	Turkey	21,167	24,292
France	54,726	42,457	West Indies	7,879	15,577
Germany	187,170	195,738	Sundries		410
Gibraltar		1,220			
Netherlands	77,780	124,846			
Italy	28,158	53,139	Total	1,564,023	1,581,190

The large shipments to the United States in 1903 were due to the anthracite coal strike in Pennsylvania. When that was settled the amount fell back to its former level.

LOADING COAL SHIPS IN HULL.

With these large exports Hull has naturally availed itself of the latest inventions for shipping coal. Brought in directly from the coal mines on tracks laid alongside the docks, the loaded cars are hoisted bodily to the proper height, the coal dumped into a chute, and the cars

run back on an elevated track. The following illustration shows a coal hoist with a car in the act of dumping a load of coal:



Hoist with carload of coal being dumped.

RECORD LOADING OF SHIPS.

There are a number of such coal hoists at each dock, and record time is often made in loading a ship with coal. Below are a few examples of quick loading:

Record of quick loading of coal on ships at Hull, England.

Steamship.	Quantity loaded.		Time consumed.	
	Tons.	cwt.	Hrs.	min.
Calgarth	2,448	8	15	30
Throstlegarth	2,064	4	20	45
Balgarth	2,161	11	16	45
Bangarth	2,100	0	12	45
Trevethick	900	18	6	45
Farnsum	3,582	9	23	45

When the United States becomes a large exporter of coal, similar or more improved methods will become necessary.

WALTER C. HAMM, *Consul.*

HULL, ENGLAND, *March 1, 1905.*

OLIVE OIL MARKET OF MALAGA.

(From United States Consul Birch, Malaga, Spain.)

“Higher prices and a half crop” tersely expresses the present condition of the Malaga olive-oil market. The yield of olives from the orchards of Andalusia (that section of southern Spain embracing the provinces of Cordoba, Jaen, Seville, Granada, and Malaga) has been less for the present vintage than for any of the last four years, on account of the hot weather during the early autumn, when the olive was ripening, which caused a considerable portion of the fruit to prematurely ripen and fall.

Usually the olive crop of Andalusia is sufficient for the pressing of about 30,000,000 arrobas (127,789,000 gallons) of oil. While accurate figures are difficult to obtain, 15,000,000 arrobas (63,945,000 gallons) would probably be a fair estimate of the present crop. The olive yield of Italy, which is closely watched by Malaga exporters, is now reported to be smaller than that of southern Spain. Thus far, however, there has not been as much Spanish oil sold to either Italy or France as in former years.

A comparison of this season's sales of Malaga olive oil to the United States shows a decrease of one-third from those of 1903, which was probably the best season the oil exporters of Malaga ever had. The exports of Malaga oil for the last three seasons. October to February of each year, were as follows: 1903, 9,240 barrels; 1904, 5,750 barrels; 1905, 5,823 barrels.

A lower rate of monetary exchange, which operates against exportation, is the reason given for the increase of price during the present season from \$138.69 in October last to \$170.60 per ton of machinery olive oil, the present price. Since the opening of the season the rate of exchange has fallen more than 5 per cent.

The vintage is now at its height.

D. R. BIRCH, *Consul.*

MALAGA, SPAIN, *February 25, 1905.*

GRAIN TRADE OF HAVRE IN 1904.

(From United States Consul Thackara, Havre, France.)

In 1904 25,814 tons of wheat were imported into Havre as compared with 90,920 tons in 1903, a decrease of 65,102 tons. The falling off in the receipts were mostly due to the abundant French harvest. Of the imports, 5,276 tons were received from British India against 4,037 tons in 1903; 14,520 tons from the United States in comparison with 67,877 tons the year previous, and 5,513 tons from Argentina against

18,587 tons in 1903. The local customs statistics do not separate the hard and soft wheat, but no American macaroni wheat was received during 1904.

There were 42,600 tons of corn imported as compared with 58,016 tons in 1903, a decrease of 15,416 tons. The imports from the United States were 16,192 tons, against 34,483 tons in 1903; from Argentina 25,400 tons as compared with 18,404 tons in 1903, and the remainder from British India, Uruguay, and Indo-China.

The falling off in the receipts of American corn was mostly owing to the poor condition in which the corn cargoes from the United States arrived at their destination. In nearly every case they were damaged from the heating of the grain, and, in consequence, the importers suffered heavy losses.

Up to the present time the new crop of 1904 is coming forward in larger quantities, the grain is in an excellent condition, no complaints have been received from the local dealers, and the prospects are that there will be a good trade in American corn during the coming season.

There was but little demand for foreign oats at Havre in 1904, as the native harvest was sufficiently large to supply the home consumption.

A. M. THACKARA, *Consul*.

HAVRE, FRANCE, *March 9, 1905*.

MONETARY LAW OF MEXICO.

The Acting Secretary of State, under date of April 1, 1905, transmits to the Department of Commerce and Labor the following text of a telegram, dated March 30, 1905, from the American ambassador to Mexico:

Monetary law of Mexico promulgated 25th instant becomes operative May 1 next, but bullion presented by private persons at the mints and assay offices of the federation for coinage will cease to be admitted after April 16 next, and from date of publication of this law metals from abroad will not be accepted unless they shall have been imported prior to that date.

INCANDESCENT GAS-BURNER AND ELECTRICITY.

(From United States Consul Halstead, Birmingham, England.)

Mr. Newbigging, chief engineer of the Manchester municipally owned gas works, in a paper read recently before an association of students of civil engineering, said that the introduction of the incandescent gas-burner had given a new lease of life to gas undertakings, and had placed gas in the front position as the cheapest illuminant. While he did not deny that, for decorative effects, electricity had

advantages over gas, he thought the recently introduced inverted incandescent gas-burner bade fair to rival the present incandescent electric light. Having made the statement that electricity, light for light at Manchester prices, is eight times dearer than gas, he said an incandescent gas-burner develops, per cubic foot of gas consumed, from 15 to 40 candles, according to the system employed. With gas at 2s. 4d. (56 cents) per 1,000 cubic feet and electricity at 3.86d. (7.72 cents) per unit, average prices in Manchester, and taking the lowest power developed by the incandescent gas-burner, viz, 15 candles per cubic foot, 15,000 candles per 1,000 cubic feet, the cost would be 1.86d. (3.72 cents) for 1,000 candles, while one unit of electricity developed in "an incandescent burner," a light equal to 256 candles each at 3.86d. (7.72 cents) per unit, or 15.05d. (30.10 cents) per 1,000 candles.

The Manchester gas works intends to establish a new department to deal not only with the maintenance of consumers' incandescent burners, but to assist in developing the greatest amount of light from the gas consumed.

There has been very great prejudice in this country against the use of carbureted-water gas, the kind in most extensive use in the United States. After describing the manufacture of coal gas and of carbureted-water gas, Mr. Newbigging said that in regard to the latter much unwarrantable public agitation had been directed against its distribution in England. As a matter of fact, carbureted-water gas was purer than coal gas, and had the same characteristic odor. It has been manufactured in Manchester for the past seven years, and there has not been a single accident caused through its use.

An abstract of Mr. Newbigging's paper was published in a recent number of *The Gas World*, and in the same issue of that publication I find in the speeches of the chairmen at the half yearly meetings of two gas companies a number of interesting bits of information regarding gas.

Sir George Livesy told the shareholders of the South Metropolitan Gas Company of London that because there were 1,063 additional ordinary consumers, 17,055 more penny-in-the-slot gas consumers, 3,654 more cooking stoves in use by ordinary householders, 18,865 more cooking stoves in use by penny-in-the-slot gas consumers, and many more customers using gas engines and gas fires, the management had come to the conclusion that the increased consumption should be something like 270,000,000 cubic feet of gas, but there had been an increase of only 170,000,000 cubic feet. He said, in explanation, that the falling off in the expected increase was fully accounted for by the free adoption of the incandescent mantle. In one factory it was found on test that with incandescent burners the consumption of gas was one-third less than it had been with the best flat flame burners, while the light was greatly superior. There was no

doubt that the incandescent burner was being largely adopted. The company had 45 men devoting their attention to the wants of customers in the matter of maintenance of mantles, etc., of incandescent lamps, while many consumers had learned to do the work for themselves. It was found that the adoption of the mantle meant a reduction of 35 per cent in the consumption of gas, and to Sir George the wonder was that with the largely increased use of the mantle there had been any increase in the consumption at all.

The gentleman who seconded the motion for the adoption of the report said that the automatic meter (penny in the slot) consumers had, in the last five years, increased in number by 81 per cent, the stoves used by them by 100 per cent, and the stoves used by ordinary consumers by 50 per cent, and though the quantity of gas made was so much greater the company used less coal, owing no doubt to improved methods of manufacture.

At the meeting of the Gas Light and Coke Company at Westminster, London, Col. Sir William Thomas Makin, Bart., "governor of the court of directors," who presided, called attention to the company's scheme of maintenance of gas mantles at a charge of 9d. (18 cents) per burner per quarter, saying that the number of burners now so maintained by the company is 110,713, an increase of 23,356 in the half year, adding that he was sure the system only wanted to be more widely known in order to induce an even greater number of consumers to avail themselves of it. At nearly all company meetings nowadays there is complaint of the increase of local taxes, which the "governor" at this meeting said were in London equal to 3.3d. (6.6 cents) per 1,000 cubic feet of gas, with the tendency steadily upward, and many factories had been moved from London to avoid the high rates. In this way the local authorities had been "killing the goose which laid the golden eggs." Unfortunately the gas company could not remove their works elsewhere. At many meetings of railway companies lately the chairmen have complained that railway shareholders were providing, as the largest contributors of local taxation, the money with which local authorities were establishing electric lines which were in turn competing with the railroads—and of course railroads can not vote.

At this meeting of the Gas Light and Coke Company the governor performed an experiment to show how gas burners can now be manipulated as easily as electric lights. The *Gas World* reports that "he pressed a button on his desk and two incandescent gas burners high up on the wall of the room were lighted up; he pressed the button again and the lights were extinguished. Sir William liked the experiment so much that he repeated it, and his audience emitted a dignified murmur of approval."

I saw this device in use here in Birmingham the other day. It is a Swiss invention, and a Birmingham firm, manufacturing chandeliers,

electroliers, and gas and electric fittings generally, received an order from the English owner of the patent for 10,000 of them, deliveries to begin this week. It is a simple device. With an incandescent burner there is a "pilot light," that is a tiny light through a bypath, so that when the gas is turned full it will be lighted. Where the key on a gas burner would ordinarily be a little piston is placed, this piston having an opening corresponding to the openings in the fixture and the burner. When the piston is forward the gas has communication with the burner and is lighted by the pilot light, and when the piston is in the other position the gas is shut off, with the exception of a small quantity for the pilot light. The piston is operated pneumatically, a small copper tube about the size of a telegraph wire running from the gas fixture, say, to a point near the door of a room, so a person entering the room can press in the plunger, which is at the end of the tube, thus compressing the air and driving the piston at the fixture into the gas-opening position.

MARSHAL HALSTEAD, *Consul.*

BIRMINGHAM, ENGLAND, *February 27, 1905.*

INDUSTRIAL CONDITIONS IN RUSSIAN POLAND.

Under date of February 28, 1905, United States Commercial Agent Ernest L. Harris, Eibenstock, Germany, transmits the following translation of an article in the Kirchhoffs Technische Blätter, No. 7, 1905:

The industries in Russian Poland have suffered more from the war with Japan than any other part of Russia. This is ascribed to the fact that the Polish provinces on the Vistula manufacture, to a large extent, certain articles which are dependent for a market either upon foreign countries or distant parts of the Russian Empire. One-half of the inhabitants of Russian Poland is dependent upon house industries for a living. These house industries consist of the manufacture of gloves, shoes, scarfs, neckties, shirts, underwear, and ready-made clothing. There are whole cities in Poland, as for example Bresiny, in the district of Piotrkow, which are absolutely dependent upon the making of cheap, ready-made clothing for distant markets. Up to the outbreak of the war, Siberia and the Russian possessions on the Pacific were the best markets for this industry. To-day there is practically no demand for manufactured goods in any Russian territory in the Far East either directly or indirectly influenced by the war.

Another cause of the extreme business depression in Russian Poland is a too liberal use of the long-credit system, which has been participated in to the fullest by both manufacturer and merchant. At the outbreak of the war those manufacturers who were called upon to meet the demands of their foreign bankers were compelled to force payments from their customers. Such procedure has made its influence felt among every class of the inhabitants.

The crop failure in the Vistula provinces in 1904, caused by the long-continued drought, has also produced much misery among the peasant classes.

BRITISH WEIGHTS AND MEASURES.

(From United States Consul Boyle, Liverpool, England.)

A few days ago, at the annual meeting in London of the Association of the Chambers of Commerce of the United Kingdom, a representative of the Liverpool Chamber moved the following resolution, which was agreed to:

That as another step in the direction of the adoption by this country of a decimal system of weights, and in supplement to the 50 pounds weight recently authorized by the board of trade to facilitate the weighing of cotton, corn, tobacco, etc., by centals and pounds, this association respectfully asks the board of trade to authorize forthwith weights of 20 pounds, 10 pounds, and 5 pounds, also, as aliquot parts of the cental. In making this request the traders specially concerned wish to acknowledge gratefully the concession already made them in the matter of the 50 pounds weight, which has fully answered the expectations in the saving of time, labor, and expense.

Report has already been made^a of the special order in council, announced through the board of trade, sanctioning the use of a weight of 50 pounds. The British Government also provided standard 50-pound weights for use and reference at the various official weigh houses. The commercial community now desire official sanction to the use of 20 pounds, 10 pounds, and 5 pounds as further aliquot parts of the cental. There can be little doubt that the Government will in course of time grant the request.

It will be noted that the cental (100 pounds) is the standard or unit weight of the aliquot parts of which official sanction is desired. It is a curious fact that what is known as a "hundredweight" in nearly all commercial transactions in the United Kingdom is really 112 pounds, and a "half-hundred" is 56 pounds; and this, too, in spite of the fact that the cental (or true hundredweight) has been officially recognized in the corn trade for a long while, and it has recently been adopted by the cotton trade. Last year the tobacco trade of Liverpool induced the dock board (which officially weighs imported tobacco in the warehouse) to state the total weight in pounds in addition to the weight in British hundreds (112 pounds), halves (56 pounds), and quarters (28 pounds), and odd remaining pounds.

The ancient hundredweight was 100 pounds. It was raised to 108 pounds by Edward I, in order to make it equivalent to the hundredweight of the pounds of some other countries (such as the French and the Netherlands troy pounds); and Edward III raised the hundredweight to 112 pounds for the purpose of division into 8 "stones" of 14 pounds each. In this way the English ton of 20 hundredweight (formerly 2,000 pounds) was raised to 2,240 pounds. The latter weight is now universally used in this country for a ton; in certain foreign transactions (particularly American), however, calculations are made

^a Monthly Consular Reports, No. 281, February, 1904.

upon the ton of 2,000 pounds, which is called the "short" ton, while the ton of 2,240 pounds is called the "long" ton.

As above stated, the corn trade of Liverpool has used the cental as the unit or standard for a long time, but, strange to say, its use is practically confined to one class of transactions, viz, sales of wheat or maize (Indian corn) after delivery, i. e., on delivered terms. Purchases are made by Liverpool traders on the basis of the recognized standards of weight of the country of origin—that is, the cost, freight, and insurance terms on grain sold to arrive or on passage are based on the standards of weight of the country of origin; but after arrival the standard of weight for sales is the cental (100 pounds). This is confusing to most persons not in the corn trade, particularly as the term used generally as the standard of weight for grain almost the world over, the "quarter," varies in different countries, as the following statement shows:

Weight of the "quarter" in the several countries.

Country.	Weight.
United States:	<i>Pounds.</i>
Atlantic coast	480
California	500
Oregon	500
Canada	480
River Plata	480
Russia, generally	492
Russia, Baltic provinces	486
India	492
Australia	480
Danube and Balkan States	480
New Zealand	480
Chile	500

There are also other varying "quarters," as follows: Pease (Indian or Canadian), 504 pounds; beans, all descriptions, 480 pounds; maize (Odessa, Bessarabian, and Galatz, Foxanian), 492 pounds; maize (American and all other descriptions), 480 pounds.

But this is not all. The confusion is increased by the varying standards of weight in different parts of the United Kingdom, as follows, on "delivered terms," for example:

British weights of foreign grain sold after arrival, i. e., on delivered terms.

Measures.	Weight.
LIVERPOOL.	<i>Pounds.</i>
Cental of wheat or maize	100
Bushel of wheat, domestic	70
Bushel of wheat, foreign	60
Quarter of wheat	480
Bushel of barley	40
Bushel of oats	45
LONDON.	
Quarter of wheat	480
Quarter of maize	480
Quarter of barley	480
Quarter of oats:	
Russian	304
English	326
American	320
New Zealand	304

British weights of foreign grain sold after arrival, i. e., on delivered terms—Continued.

Measures.	Weight.
HULL.	
Quarter of wheat.....	<i>Pounds.</i> 480
Last of wheat (10 quarters each).....	480
Last of barley (10 quarters each).....	448
Quarter of barley, malting.....	448
Quarter of barley, feeding.....	400
Quarter of oats.....	336
SCOTLAND.	
Boll of wheat or maize.....	240
Boll of oats.....	196
IRELAND.	
Barrel of wheat.....	280
Barrel of barley.....	224
Barrel of oats.....	196

MEASURES IN USE IN VARIOUS PARTS OF THE UNITED KINGDOM.

The following is a list of the different measures used in the sale of wheat in the United Kingdom:

- Quarter of 8 imperial bushels (496 pounds), country districts.
- Quarter of 8 imperial bushels (504 pounds) at London.
- Coomb of 4 bushels at Beccles.
- Load of 3 bushels at Sheffield and Doncaster.
- Load of 5 quarters at Oxford and Cirencester.
- Load of 5 imperial bushels at Bedford.
- Boll of 3 imperial bushels at Newcastle, Carlisle, etc.
- Boll of 6 imperial bushels at Berwick, Duns, and Kelso (Scotland).
- Boll of 4 imperial bushels throughout Scotland.
- Bushel of 62 pounds at Birmingham, Gloucester, and Taunton.
- Bushel of 70 pounds at Liverpool and Manchester.
- Bushel of 75 pounds at Chester, Shrewsbury, and Nantwich.
- Bushel of 80 pounds at Monmouth and Abergavenny (Wales).
- Bushel of 65 pounds at Aberystwyth (Wales).
- Boll of 264 pounds at Glasgow.
- Boll of 240 pounds at Hamilton.
- Barrel of 280 pounds at Dublin and Cork.
- Hundredweight of 112 pounds at Bedford (England) and Newry (Ireland).
- Cental of 100 pounds at Liverpool.
- Windle of 220 pounds at Preston.
- Hobbet of 168 pounds at Denbigh (Wales).

The correspondent who supplied the last list (originally published in the London Daily Mail, and since circulated by the British Decimal Association) says:

It is openly stated by grain traders that they would object to a uniform system of weights, as they would thereby lose the pull which they can get with countrymen by buying on one weight and selling on another.

Lord Kelvin asked the warden of the standards, when he appeared before the select committee of the House of Lords in 1904, what the

quarter was a quarter of, but the witness was not able to answer. A Liverpool savant,^a who has written a booklet upon the subject of weights and measures, gives the following explanation:

About six centuries ago the quarter, even then an ancient measure, was a fourth part of a chaldron, which was then a measure of 32 bushels of wheat, equal to about 2,000 pounds, or the ton of that time. When the hundredweight was raised to 112 pounds, and the ton became 2,240 pounds, the chaldron was increased to 36 bushels, its present statute capacity. In some parts of England the quarter was thereupon increased to 9 bushels, or the bushel increased to 9 gallons in order to keep the quarter in its proper proportion to the chaldron or ton of wheat. But this was forbidden by statute, and so the chaldron fell into disuse as a grain measure and the quarter ceased to be a quarter of any measure. But it is now a quarter of the Canadian and United States ton of wheat, of 20 centals, our revived original ton. The freight ton of ships, 40 cubic feet of cargo, is the old chaldron of 32 bushels, or 20 centals, or 2,000 pounds of wheat.

In addition, a long list could be furnished of anomalous customary weights and measures locally used in different parts of the United Kingdom for all varieties of farm produce, and which, to even a Britisher outside the particular locality, not to speak of an American, are absolutely bewildering.

From the foregoing it is not surprising that there is a strong movement in this country for the simplification and the uniformity of weights and measures. This movement has particular reference to the foreign grain trade,

JAMES BOYLE, *Consul*.

LIVERPOOL, ENGLAND, *March 9, 1905.*

WOOD-MEASURING MACHINE.

(*From United States Consul Crevey, Glauchau, Germany.*)

A description of a machine for accurately registering the cubic contents and linear measure of lumber or logs at the saw will be, I think, of interest to those connected with the lumber industries in the United States.^b The machine can be applied to either circular or gang saws, and a test I witnessed last Saturday proved it to be more accurate than the recognized standard tables for computing the cubic contents of lumber in a log. The mechanical principles involved are so simple that all present could not but wonder that it had not been thought out before.

The machine was attached to the side and upper part of the gang-saw frame, was operated by a chain belt from the feed-roller gear, and so

^a Edward Nicholson, F. I. C., F. C. S.

^b Inventor's specifications, claim, drawings, etc., accompanying Consul Crevey's report are on file in the Bureau of Statistics, Department of Commerce and Labor.

geared that the length of the log is registered as it is drawn into the saws. By the attachment of a small roller placed between the feed roller and the saws and fastened to the feed roller, the irregularities of the log's surface, by the rising and lowering of the feed roller, are communicated to the indicator, which in turn controls the numerators registering the cubic contents.

After the log has passed through, the feed roller, carrying with it the roller, lowers, thereby disengaging a small ratchet, throwing the indicating machine out of action.

The indicator is first set at a point indicating the average diameter of the logs to be sawed, and the supplementary roller, which is attached to and working in harmony with the feed roller, causes the pointer to indicate the exact diameter of the log, which in turn regulates the speed of the gear wheel operating the cubic numerals.

The machine is compact, strongly made with interchangeable parts, and should wear indefinitely. A millwright or machinist would readily understand the principles involved and be able to attach the apparatus without difficulty. The American rights are for sale, and at the desire of the inventor interested parties are requested to address all communications to this consulate.

E. A. CREEVEY, *Consul*.

GLAUCHAU, GERMANY, *February 21, 1905.*

BRITISH REGULATIONS FOR HEAVY MOTOR VEHICLES.

(*From United States Consul Mahin, Nottingham, England.*)

Motor vehicles for carrying or hauling heavy loads are now so much used in this country that their operation is closely guarded by Government supervision. A section of the motor act of 1903 provides for suitable regulations as need may develop. As the result of inquiry and investigation by a committee of the department, the local government board promulgates certain new rules, taking effect to-day but giving six months' grace for necessary alterations in existing motor vehicles.

Hitherto the legal weight limit of an empty motor car has been 3 tons. Now it is raised to 5, with an increase in the legal joint weight (unladen) of a motor car and trailer from 4 to 6 tons. Heretofore there has been no legal weight limit to the load on a motor car, but the new regulations aim to prevent excessive loading. The total weight of car and load is limited to 12 tons. The weight borne on any axle shall not exceed 8 tons. The weight on any axle at any time is not to be allowed to go beyond the weight accepted, as for that axle, at the time of the registration of the car, such accepted weight

for the axle being termed the "registered axle weight". As to the relationship between the limitations of 12 tons and 8 tons, it is noted that the greater part of any load, approximating to two-thirds of the whole, may ordinarily be expected to be carried on the axle to which the driving power is directly applied.

Special and detailed provision is made for securing a width of tire duly proportionate to the moving load and the size of the wheels in cases where the wheels are fitted with ordinary tires, i. e., tires which are not pneumatic or are not made of a soft or elastic material. No ordinary tire is, however, to be less than 5 inches in width.

A heavy motor car (over 2 tons' weight unladen) is restricted to 8 miles an hour, or to 5 miles an hour if the car exceeds in weight 3 tons unladen, or has any axle with an axle weight exceeding 6 tons, or draws a trailer; but to this rule there are exceptions allowing somewhat higher speed to cars having pneumatic tires or other tires of a soft or elastic material.

The axle weight on any axle of a trailer is limited to 4 tons. If the trailer exceeds a ton in weight unladen, the provision as to the proportionate width of tires applies; but a minimum width of 3 inches is allowed. A trailer is not allowed to be drawn by any motor car used as a stage carriage or for the conveyance of passengers for gain or hire.

FRANK W. MAHIN, *Consul*.

NOTTINGHAM, ENGLAND, *March 1, 1905.*

GOLD STANDARD IN KOREA.

(From United States Minister Allen, Seoul, Korea.)

In accordance with the advice of some of her foreign employees, Korea adopted the "gold standard" on February 12, 1901. Action regarding this important matter was, however, restricted to the mere announcement and nothing came of it. The ordinance has now been reenacted, to take effect on June 7 of the present year. This time the action is taken by the Japanese for the Korean Government. I inclose copies of the new ordinance adopting the gold standard and arranging for the recall of the present currency.

HORACE N. ALLEN, *Minister*.

SEOUL, KOREA, *January 25, 1905.*

CURRENCY ORDINANCES OF KOREA.

ORDINANCE NO. 2.

ARTICLE 1. Gold shall be the standard of the coinage system in Korea.

ART. 2. The coinage ordinance No. 4 of the fifth year of Kōbu [1901] shall be put into effect on the 7th of June of this year [1905].

ORDINANCE NO. 3.

ARTICLE 1. The coins having the quality, weight, and forms similar to those fixed by the imperial ordinance No. 4 of the 22d of February of the fifth year of Kobu [1901] shall be granted to circulate and unconditionally be used as currencies for private and governmental accounts.

ART. 2. This recognition shall be put into effect at the same time as shall the said ordinance be put in force.

EXCHANGE OF OLD COIN.

ARTICLE 1. As gold is adopted as the standard of the coinage system by the imperial ordinance No. 4 of fifth year of Kobu [1901], the old coins hitherto issued shall be exchanged for new coins or withdrawn from circulation, according to the following articles:

ART. 2. The old coins shall gradually be exchanged for new coins, or withdrawn from circulation, according to the convenience of the Government, at the rate of 10 silver ryo (the same for 2 silver yen) for 1 gold yen.

ART. 3. The exchange of the old nickel coins shall take place on July 1, of the ninth year of Kobu [1905].

ART. 4. The end of the period of exchange of the old nickel coins shall be fixed, in terms of more than one year, by the minister of state for finance.

ART. 5. The old nickel coins shall be prohibited from circulation after the expiration of that exchange term, but the same may be used for the payment of taxes during the six months after that prohibition.

ART. 6. The method of exchange and retirement of the old coins and also the place of exchange shall be fixed by the minister of state for finance.

Table: 2 old nickels=1 new nickel; 10 ryo=1 gold yen; 2 silver yen=1 gold yen.

IMMIGRATION INTO MEXICO FROM THE UNITED STATES.

(From United States Consul Martin, Ciudad Porfirio Diaz, Mexico.)

In the last two years a large body of people from the United States, called the Blaylock colony, principally from Oklahoma and near-by points, passed through this port into Mexico, establishing themselves in the State of Tamaulipas. The lands of the colony are situated about 100 miles north from Tampico and 30 miles west of Escandon station on the Gulf road. The country gradually rises from the plains to the foothills, and constitutes a broad, well-watered valley narrowing in its upward reaches, flanked by grassy slopes well adapted for the grazing of cattle, while the valleys are fertile, yielding large crops.

During Christmas week a batch of immigrants passed through this port to join the Blaylock colony. They came from the Chickasaw Nation, or Indian Territory. There were some 60 in this detachment,

they having previously purchased the lands on which they are to settle. Some of them had been down and inspected the country and were much pleased with the climate, the fertility of the soil, and the general surroundings. They claim that two crops annually can be raised, there being abundance of rainfall to meet all requirements. These people appear to be thrifty, industrious, and intelligent. There are now, it is estimated, 1,500 persons in the Blaylock colony. They have erected churches, schoolhouses, stores, and other necessary conveniences for the enjoyment of civil and religious liberty, all of which they claim is guaranteed to them.

LEWIS A. MARTIN, *Consul*.

CIUDAD PORFIRIO DIAZ, MEXICO, *March 1, 1905.*

SUGAR INDUSTRY OF TRINIDAD.

The following interview with a prominent Halifax merchant, returned from an extended trip to the West Indies, printed in the Halifax Herald, has been transmitted by United States Consul-General W. R. Holloway, Halifax, Nova Scotia, under date of March 15, 1905:

Trinidad has the largest sugar estate in the British West Indies, the Madaleine, with a capacity for crushing 17,000 tons of cane daily and producing 170 tons of sugar. The depression in the sugar trade for so many years has caused a change in conditions, and land has been let out to small farmers, who bring their cane to the mills for crushing. Last year they were able to secure only 9s. (\$2.17) per ton; this year they are getting 14s. (\$3.44). Large tracts of land that hitherto have been lying idle are now set out in cane. The prospects for trade and profitable industry in the West Indies are brighter than for years. There is no reason why Canada should not get a good share of this trade, and each connection that we make with the West Indies through our banks or through commerce generally must be for mutual advantage. At the present time, outside of yellow crystals, which are popular in the English markets, the West Indies sugar finds an almost exclusive market in Canada.

Trinidad is in a position to command a great part of the trade of Venezuela, though at present, owing to the action of President Castro, this trade is reduced to a minimum, if not altogether prohibited. Castro's own country suffers more than does Trinidad from this embargo, and the future may soon work a change.

LIEGE WORLD'S FAIR.

(From United States Consul McNally, Liege, Belgium.)

The exposition of 1905, marking an epoch in the city's history, is attracting the attention of all the great commercial centers of the world. That Liege is alive to the significance of the occasion can be readily seen by the vast improvements made during the past year. The principal boulevards have been asphalted, electricity has been

substituted for steam on the tram systems, new lines of street cars have been installed, the overhead telephone has been superseded by the underground system, streets have been widened, and in various other ways Liege has made betterments which will serve as permanent beautifiers to an already interesting city.

The river and water improvements are up to date and interesting, and the new bridges that are to serve as approaches to the exhibition are of a permanent and artistic construction that will please the visitors. The large fair buildings are nearing completion, and the separate buildings being erected by the various countries are scenes of great activity. France will undoubtedly be the best represented country, and her buildings are to be of good proportions and finish. Her representatives have already leased two large dwelling houses and will personally supervise their exhibits.

No expense has been spared either by the Belgian Government or the Belgian people within the communal environments of Liege to make the exhibition a creditable one. The authorities have labored incessantly to make the exhibition a success, and I can confidently assert that the work done toward this end is thorough and painstaking, and will form a pleasant surprise to those who are fortunate enough to make Liege a visit during the gala time. There is a rivalry for the Belgian markets among many of the European countries, and this exhibition will not only demonstrate the wants of Belgium in mechanical and other ways, but will show to its people the many inventions of other countries. Canada is to have a separate building, and her exhibits will be directed toward influencing emigration to that country. The Japanese exhibit will be the same as that made at St. Louis.

In 1880 Belgium celebrated the fiftieth anniversary of her independence, revealing to the world the merits of her commercial and industrial possessions. The first international exhibition was held at Brussels, the capital, followed by one at Antwerp, the commercial center, both of which were highly successful. This year, which is the seventy-fifth anniversary of the Kingdom's independence, will witness an exhibition at Liege, which is the acknowledged leading industrial city of Belgium. This exhibition, if the aims of the promoters are carried out, will exceed, both in size and importance, the Brussels and Antwerp exhibitions.

Liege is well known in the industrial world, not only as a close competitor in many branches with the United States, but with European countries. The Société John Cockerill, which manufactures steel and steel products, is an immense institution, which can be rivaled only by Krupp and Creusot; the cut glass and crystal works of Val St. Lambert is one of the noted manufactories in its line in the world; the Fabrique National d'Armes de Guerre (manufactory of firearms) is one of the largest in Europe; and the Vieille Montagne Zinc Works is the largest of its kind in the world. These manufactories and many others, roll-

ing mills, blast furnaces, firearms works, etc., go to make up the industries.

The University of Liege and the Montefiore Technical Institute are of world-wide renown; the Royal Conservatoire of Music is equally famed; while old and magnificent buildings, monuments, and rich architecture give the city an historical importance not fully appreciated by travelers. The environments are all beautiful and interesting. Spa is about one hour from Liege, while many other important places are within easy reach by rail or tram car. Every known device to interest and amuse will be provided for the entertainment of the visiting public, and a large and spacious modern theater will be erected in which the finest musical and dramatic artists of Europe will appear. The exhibition grounds are on the banks of the Meuse, a beautiful river that will lend natural water facilities to the fetes.

While Liege is on the main line of travel between Paris and St. Petersburg, few tourists stop over, but I can say that all persons doing so long enough to see the interesting parts of the city and its special industries are amply repaid for their trouble, and take away ideas formerly unknown to them. Brussels is known as the capital and as a city of beauty throughout, Antwerp is well advertised as the seaport entrance to Belgium, but for a producing city, dependent upon its own resources, Liege exceeds both of them. At any time the city of Liege is worth visiting, but now more than ever, when the exhibition will show the value of its products and its operating and producing systems.

EXHIBITS.

The following are among the subjects and industries embraced in the scope of the coming exhibition: Art; instruments and general processes used in education; mechanical plants and processes; engineering; means of transportation; agriculture, horticulture, and arboriculture; forestry; hunting and shooting; fisheries; fruit gathering; food stuffs; mining and metallurgy; decoration and furnishings of public buildings and private houses; yarns, textile fabrics, and clothing; chemical and miscellaneous industries; social economics; sanitation; public relief; trade and colonization; land and sea forces; sports; congresses and conferences.

JAMES C. McNALLY, *Consul.*

LIEGE, BELGIUM, *February 28, 1905.*

The following correspondence concerning the Liege Exposition was published in the February, 1905, number (293) of the Consular Reports:

EXPOSITION OF 1905 AT LIEGE, BELGIUM.

(*The Acting Secretary of State to the Secretary of Commerce and Labor.*)

SIR: The Department has received a note, dated the 4th instant, from the Belgian minister at this capital stating that, in connection with the exposition of 1905, there will be held at Liege, in September

next, a conference of chambers of commerce and commercial and industrial corporations, and that he has been instructed by his Government to extend to this country an invitation to be represented officially at said conference.

Baron Moncheur sends with his note a number of copies of the programme of the conference, and requests that they may be distributed among such chambers of commerce and commercial or industrial associations as should be interested in the matter.

The programmes referred to have been sent, addressed to your Department, under separate cover.^a

I have the honor to be, etc.,

F. B. LOOMIS, *Acting Secretary.*

DEPARTMENT OF STATE, WASHINGTON, *January 25, 1905.*

DECANTING WHITE WINES.

(From United States Consul-General Ridgely, Barcelona, Spain.)

The decanting of white wines is beginning to be generally regarded in Spain and France as almost as necessary a process as the decanting of red wines. This being the case, the following may be of interest to our California wine growers:

In some parts of France white wines are decanted in the month of December at the same time as the red wines; in other districts, however, it is thought better to allow them to remain on the lees during the winter until about February or March.

Although it is true that wines which remain in contact with the lees acquire a marked bouquet, due to an excess of carbonic acid which, by drawing the volatile oils, produces an agreeable sensation to the palate, the practice of decanting in spring is frequently attended with serious risks, because the wine, as well as the lees, contains certain pathogenic germs which are liable to seriously affect it. By decanting in December these germs, which will be found to have been precipitated by the first cold weather, can be got rid of, it having been ascertained that the reason so many wines are spoiled is that they are left too long on the lees. It is therefore advisable to rack the white wines, decanting them into other carefully prepared casks which have been sulphured and, if possible, sterilized by steam. This should not be done until uniform cold weather has set in, so as to insure all impurities in the wine having settled at the bottom of the casks.

Care must also be taken to avoid exposure to the air, so as to prevent the oxygen in the atmosphere from developing the animalcules in the lees. The racking should be done as gently as possible by means of pumps or siphons, care being taken not to stir up the liquor and render it turbid. As soon as this has been done the casks or vats should be well covered and left standing during the whole win-

^a Copies of the programmes can be obtained at the Bureau of Statistics, Department of Commerce and Labor.

ter until the spring, when a second racking should take place. In the interval the vats should be repeatedly filled up, so as to insure the white wine keeping in good condition. If treated in this manner an excellent result will be obtained.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *March 2, 1905.*

COMMERCIAL AND INDUSTRIAL DEVELOPMENT OF CHINA.

(From United States Commercial Agent Harris, Eibenstock, Germany.)

China is making slow but steady progress, both commercially and industrially, according to a recent report^a from a commercial expert in the German consulate-general at Shanghai. In many provinces of the Empire agricultural and trade schools with primary courses have been established, and are beginning to make their influence felt in many directions. Another movement, which is fraught with vast consequences for the future, is that with each succeeding year an increasing number of Chinese students are being educated in foreign countries. These students are to be found principally in the United States, Germany, England, and especially in Japan. The number of foreigners employed in industrial enterprises in China is not as large as might be expected. A number of Germans hold positions in the silk-spinning factory at Tsingtau, in the lead and zinc mines at Wutschang, and in the Shantung Mining Company. It seems to be a settled policy of the Empire to exclude foreigners as far as possible from exploiting the riches of the soil.

There are at present more than 1,243 miles of railway in operation in China, which, from a European point of view at least, are returning good financial results. To the Chinese capitalist, however, who is accustomed to the 12 per cent legal rate of interest in China, and who is in a position to invest his money in other enterprises which will insure him 20 per cent, railway construction offers no inducements. In spite of these peculiar conditions, however, it is quite possible that within a few years' time 6,000 miles of railway will have been constructed, and many inland cities and towns of importance in the Empire will be brought in touch with the seacoast and opened to the trade of the world. It is expected that in 1905 the line from Hankau to Peking, a distance of 715 miles, three-fourths of which is already in operation, and the great iron bridge spanning the Hoangho, will be completed. Unquestionably China is on the verge of a great commercial and industrial future.

ERNEST L. HARRIS, *Commercial Agent.*

EIBENSTOCK, GERMANY, *February 27, 1905.*

^a Deutsche Industrie-Zeitung, No. 8, 1905.

FILBERT TRADE OF TREBIZOND.*(From United States Consul Sullivan, Trebizond, Turkey in Asia.)*

The export of filberts from this vilayet is assuming considerable importance and is steadily on the increase, amounting in value in the year 1904 to \$1,493,607. I understand that a number of American importers procure their filberts through Germany and France, because they have not been successful in the past in securing business connections with reliable firms in this city. The necessity for further complaint on this important point is now obviated. I am in a position to place them in direct communication with merchants who are able to satisfy the most exacting demands as to experience, commercial integrity, and financial standing. The possibility of financial loss occurring in the future on this score is reduced to a minimum.

I am informed that both German and American buyers who had business transactions with merchants dealing in filberts at Kerrasund (55 miles from Trebizond) have suffered financial loss and disappointment from the manner in which shipments have been made from that place, the principal cause of complaint being that the filberts were exported before being thoroughly dried and marketable. I have investigated this matter very thoroughly and find that the dealers were not conversant with the filbert business, and therefore were incompetent to fulfill the obligations required of them. It will afford me great pleasure to render every assistance to American importers with a view of protecting their interests, and I hope that the promotion of this industry will lead to the further development and expansion of our commerce with Asia Minor.

EDWARD J. SULLIVAN, *Consul.*TREBIZOND, TURKEY IN ASIA, *February 24, 1905.***DEMAND FOR NATURAL PHOSPHATES IN SPAIN.***(From United States Consul-General Ridgely, Barcelona, Spain.)*

When I was stationed at Nantes, France, I had occasion more than once to call attention to the steady and always increasing demand in that region for natural phosphates, and now I find a similar demand existing in Spain.

The soil of Spain has been under cultivation since before the Christian era, hence the necessity for enriching it with certain natural fertilizing products, of which it has become deprived through continuous cultivation. Phosphates are largely needed, and it appears to me that our phosphate mines in Florida should play a much more important part than they do in supplying Spain's growing requirements in this

direction. At the present time a small trade is being done by European dealers in American phosphates, both rock and milled, but were it not for the apathy of American shippers this trade would be done direct and would have assumed proportions that it can never assume if handicapped by intermediate profits, especially in the face of the competition from the Algerian mines.

I am informed by leading importers and manufacturers of chemical fertilizers here that their attempts to obtain direct shipments of phosphates from the United States have so far been unsuccessful, as higher prices have been invariably quoted than those asked for shipments to other places. They attribute this to the sellers being ignorant of the conditions prevailing here.

Imports of phosphates into Spain during the present year are estimated at from 30,000 to 35,000 tons, while next year they are expected to amount to nearly 50,000 tons, owing partly to the steady increase in the consumption and to the opening of important new chemical works now nearing completion, which will probably alone require some 20,000 to 25,000 tons annually. In view of these conditions, it seems to me that Americans interested in phosphate mines should establish direct connection with this market. There is no question as to the opportunity, and it is certain that a big business could be developed here as well as in other Spanish ports.

On several occasions I have undertaken to interest American phosphate exporters by putting local agents in correspondence with them, but they have displayed such a surprising indifference in the matter as to give the impression that they have all the business they can attend to nearer home. This being the case, it seems worth while to call the attention of persons owning undeveloped and unworked phosphate properties in the United States to the steadily growing demand in Europe for natural phosphates. Those who are interested in establishing direct relations with Barcelona may address this consulate-general on the subject, and their communications will be referred to reliable agents at Barcelona.

BENJ. H. RIDGELY, *Consul-General.*

BARCELONA, SPAIN, *March 8, 1905.*

PRODUCTION OF SHERRY WINE.

(*From United States Commercial Agent Price, Jerez de la Frontera, Spain.*)

Inasmuch as there is a controversy in American newspapers about the production of sherry wine, I transmit a statement showing the quantities of must produced in the vineyards of this district for the past fifteen years, the same being taken from the official documents of the inland revenue office:

Production of must in the Jeres de la Frontera district, Spain, during the years 1890 to 1904.

Year.	Hectol- ters.	Gallons.	Year.	Hectol- ters.	Gallons.
1890.....	229,205	6,055,596	1898.....	185,000	4,887,700
1891.....	249,865	6,588,223	1899.....	160,000	4,222,720
1892.....	220,775	5,832,875	1900.....	71,960	1,901,138
1893.....	164,285	4,339,088	1901.....	39,298	1,038,253
1894.....	147,715	3,902,630	1902.....	29,046	767,395
1895.....	149,295	3,943,373	1903.....	17,267	456,194
1896.....	180,000	4,755,600	1904.....	28,258	746,576
1897.....	165,000	4,359,300			

The exports of sherry from Jeres to the United States were larger in 1903 than during any one of the previous ten years.

M. M. PRICE, *Commercial Agent.*

JERES DE LA FRONTERA, SPAIN, *February 27, 1905.*

COAL AND SHALE OUTPUT OF NEW SOUTH WALES.

(From United States Consul Goding, Newcastle, New South Wales.)

The following statement shows the quantities and value of coal mined in New South Wales in 1903 and 1904:

Quantities and value of coal mined in New South Wales in 1903 and 1904.

District.	1903.		1904.	
	Quantity.	Value.	Quantity.	Value.
	<i>Tons.</i>	<i>Dollars.</i>	<i>Tons.</i>	<i>Dollars.</i>
Northern.....	4,410,565	8,678,960	4,042,739	7,057,836
Southern and southwestern.....	1,476,005	2,038,689	1,558,383	2,124,908
Western.....	468,276	570,996	418,687	525,640
Total.....	6,354,846	11,288,625	6,019,809	9,708,484

The foregoing shows a decreased output in 1904, as compared with 1903, of 335,037 tons in quantity and of \$1,580,191 in value.

The following statement shows the quantities of coal exported from New South Wales in 1903 and 1904 and the quantities consumed in New South Wales during the same years:

Exports of coal from New South Wales in 1903 and 1904 and quantities consumed in New South Wales.

Whither exported.	1903.	1904.	Decrease.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Australian ports.....	2,081,473	1,880,545	150,928
Foreign ports.....	1,954,721	1,292,322	662,399
Total exports.....	3,986,194	3,172,867	813,327
Consumed in New South Wales.....	2,368,652	2,846,942	a 478,290

a Increase.

The output of shale during the year was 37,871 tons, valued at \$130,280, as compared with 34,776 tons, valued at \$139,264, for the year 1903, thus showing an increase of 3,095 in tonnage but a decrease of \$8,984 in value. The supply was drawn wholly from the New Hartley mine at Capertee.

F. W. GODING, *Consul*

NEWCASTLE, NEW SOUTH WALES, *February 8, 1905.*

EUROPEAN WATCH-CRYSTAL TRUST.

(*From United States Consul Britain, Kehl, Germany.*)

The following manufacturers of watch crystals, located in various parts of Europe, have been merged into a trust for the purpose of promoting their mutual interests—

Germany.—Hirsch & Hammel, Dreibrunden; Walter Berger & Co., Götzenbruck; Vallerysthal Societe Anonyme des Verrerie de Vallerysthal & Portieux, Vallerysthal; V. Avril, Zabern; T. Lembach, Portieux.

Switzerland.—A. Kummer, Derendingen; Bartard & Redard, Geneva.

France.—Picard Freres, Luneville.

The combination is known as the "Vereinigte Uhrglas Fabriken" (Limited), with central offices at 65b Vogesenstrasse, Strassburg, Germany; Simon Schulz, manager. The directors of the trust are Sigmund Hammel, Gilbert Walter, Robert Picard, and Camille Bricka; the latter being the president.

Watch crystals are made by hand, and owing to the lower prices paid for labor in Europe, the crystals are made almost exclusively here. The total product of the factories comprising the trust in the year 1904 was valued at \$554,051. Of this, \$92,744 worth was exported to the United States from the consular district of Kehl.

JOSEPH I. BRITAIN, *Consul.*

KEHL, GERMANY, *February 23, 1905.*

OPENING FOR AMERICAN DRUGGISTS IN WEST AFRICA.

(*From United States Consul Williams, Sierra Leone, West Africa.*)

West Africa is not as yet a great market for the sale of pharmaceutical and medical preparations, but it is an excellent field of opportunities for American capital and enterprise in the drug trade, by reason of the absence of branch wholesale competition on the part of European dealers. There is not a branch wholesale drug establishment in this colony or on the coast, notwithstanding the need and opportunity for such is very evident. There are, however, numerous

public and private dispensaries, besides other small dealers, along the seaboard. The retail drug business here is limited and its influence is circumscribed, which is largely due to the fact that it is not organized and because there is little or no effort made to advance in unison with the progressive thought and methods of the times. Such advancement, however, is hardly possible on the part of small retail druggists in the absence of wholesale depots of supplies close at hand. There are relatively few dispensing pharmacists here as compared with the general population, but each does a limited amount of prescription work.

As regards the general drug trade, it is quite clear to anyone familiar with the business that this field has not been seriously considered in commercial calculations. Regardless of the reputed unhealthfulness of the climate of West Africa, European firms engaged elsewhere in this important branch of trade, whether intentionally or otherwise, have failed to take advantage of the situation. This may have been due to the fact that other branches of trade in this country require of agents, clerks, etc., business experience only, while the drug business requires both business experience and professional training. It would be difficult under the circumstances to secure men of adequate training and experience to manage such establishments as compared with the ease and facility with which proper persons could be procured for other business concerns.

Drugs having received less attention than the other branches of trade the people have tended more toward indigenous herbs and native remedial agents in which the country is abundantly rich. In view of this preference and these tendencies some have said that the drug business can hardly be developed in this country to a large extent. This is not true, for there is nothing in the present or prospective conditions to substantiate such conclusions.

American pharmacists and chemists of sober habits and character, with capital, could do well in this country. In this connection our large business establishments in the United States might train and utilize educated Afro-American young men for commercial service in this country with profit and advantage. American pharmaceutical preparations are dispensed to some extent, and so far as they have been introduced are popular. The difficulty of procuring them direct is the chief drawback to their general use. The imports of drugs and medicines into Sierra Leone for the year 1903 were valued at \$27,308, coming principally from England, the United States, Germany, and France, in the order mentioned. Those from the United States are valued at \$1,351, consisting mainly of pharmaceutical preparations and patent medicines, in the solid, semisolid, and liquid forms, e. g., plasters, pills, pellets, powders, extracts, tinctures, tonics, sirups, emulsions, ointments, and cerates. The duty upon all drugs and medicines imported into Sierra Leone is 10 per cent ad valorem.

In 1896 an ordinance regulating the practice of pharmacy was passed by the legislative council which restricts this privilege to qualified druggists. Candidates for examination as pharmacists are required to pay \$1.21 on application and \$2.43 for issuance of certificate of qualification. Besides these, a license tax of \$10.21 must be paid annually to carry on business.

There is practically no uniformity of prices in the retail trade: every dealer is largely a law unto himself, charging that which seems right in his own eyes. The average price of all drugs is generally much higher than in the United States, e. g., an 8-ounce bottle of the extract of malt or maltine, known as the "trial size" in the United States, sells here for 85 cents. This is illustrative of the prices of other similar preparations.

The following are the names of retail druggists located in Freetown, Sierra Leone: N. E. Browne, W. J. McLeod, P. G. V. Manley, J. S. Labor, Rowland May, and S. St. B. Williams.

American merchants should pay close attention to the acquisition of the trade of populous tropical countries. The mercantile pioneering spirit should be encouraged and American branch business houses established in West Africa. These would give trading bases and ultimate commercial and banking influence, which we do not now possess, but which the English, German, and French enjoy, and are extending to all parts of Africa. Not only the drug business, per se, but every other line of trade on this coast offers exceptional advantages for investments in branch establishments, which, if made now, in the formative period of the country, will lay an impregnable foundation for our future commerce with this continent.

JOHN T. WILLIAMS, *Consul.*

SIERRA LEONE, WEST AFRICA, *February 25, 1905.*

GASOLINE ENGINES IN CHINA.

(*From United States Consul Anderson, Hangchow, China.*)

Labor is so cheap in China and the cost of installing a power plant is comparatively so much that there is reluctance on the part of Chinese manufacturers to introduce power, even where it is evident that they could do so with considerable saving of labor, and eventually of money. Under the present cheap-labor system of doing things there is no outlay for high-priced machinery, and the result is that if for any reason an establishment is shut down there is no loss to follow the idleness of money invested in a power plant.

The "fung shuey," or doctrine of the "wind spirit," and "good luck" has also a direct bearing upon the situation. It is believed that

tall smokestacks and high buildings will interfere with this "wind spirit" and bring bad luck, and it is safe to say that no ordinary attractions of investments will lead the average Chinese business man into doing anything to conflict with his belief.

There is a growing conviction of the advantage of power plants in the larger concerns, and the number of mills with fair-grade power plants is increasing. It will be only a matter of a short time until the smaller manufacturers come to appreciate the need of power, and when that time comes there will be a field for gasoline engines almost beyond conception in its scope. As in the United States, there will be many cases and places where steam power will be preferable, but there are already many chances for the introduction of gasoline or naphtha power. Such engines are put out cheaply, and can be made cheaply and strongly enough to meet the requirements of a market where there is an absolute lack of knowledge of such machinery and its practical operation.

American manufacturers must remember in this connection that while they have the advantage at the present time there is reason to believe that before long they will have to fight for this trade with every weapon known to the modern business world. Already Japanese manufacturers are commencing to make some machinery of this sort, and while it lacks the merit of the American product, and will always be more or less behind the latter, it by no means follows that it will not be readily accepted in China. The Japanese have iron, coal, and other raw materials and industrial necessities. They have American and European trained experts, and they have labor so cheap that American competition on a labor basis is impossible. It behooves American manufacturers to get into the market in China with machinery of all kinds if they expect to hold these markets in the future.

The power machinery for most mills in this portion of China is from England or Scotland. As a rule, the mills have been established with English capital or under English auspices, and, naturally, the machinery has been bought in the United Kingdom. At the present time, other things being equal, American power is likely to be sought for, but where the margin between the machinery of several nations is as narrow as it is, it can hardly be expected that the Chinese market will do much running after the goods of any one of them.

So far as gasoline engines are concerned, a few object lessons out here would do a world of good, and I believe that there will be an immediate demand for such machinery when its cheapness, convenience, and efficiency are known.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 28, 1905.*

MEXICAN NOTES.

(From United States Consul Canada, Veracruz, Mexico.)

CONCESSION FOR CUTTING FINE WOODS.

The Government has granted to Señor Romulo Fernandez, represented by Lic. Joaquin D. Casasus, a concession for cutting mahogany, cedar, dyewoods, and building timber; also for gathering gums and resins, on 777.001 acres of Government lands in the Territory of Quintana Roo. The duration of contract is to be ten years. The contractor will, in lieu of rent, pay the following tariff: Each mahogany tree cut, \$1.50; each tree for building purposes cut, 50 cents; each ton of firewood, \$1; each ton of dyewood, \$2; each ton of chicle gathered, \$18; each ton of rubber gathered, \$24; for each 2.471 acres cultivated, \$1 per year; for each head of cattle grazing, 50 cents per year; for each 2.471 acres under development, 10 cents per year. As an evidence of good faith of the concessionaire, \$3,000 in bonds of the consolidated national debt must be deposited, to be forfeited in default of noncompliance with the stipulations in the contract.

EXTRACTING OIL FROM CORN

Ulises Bezaury, representing the "Compañía La Favorita," has petitioned the Government for the privileges accorded to those who introduce new industries in the Republic under the law of December 14, 1898. The company he represents intends to establish a plant for the extraction of oil from corn (maize) without thereby affecting the grain for purposes of distillation in the process of manufacturing spirits.

DYNAMITE AND EXPLOSIVES.

From and after March 1, 1905, dynamite and other explosives (except common black gunpowder for mining, pyrotechnical, and hunting purposes, in the manufacture of which only sulphur, charcoal, nitrates of soda and potash are used, and no nitroglycerin, chloride of potash or any other explosive chemical) will pay an internal-revenue tax of 21 cents Mexican (9.83 cents) for each gross kilogram (2.2046 pounds) whether of foreign or native manufacture. Imported explosives will be taxed in addition to the regular import duties and a special form of revenue stamp will be furnished.

CONCESSION FOR DEVELOPING GOVERNMENT LANDS.

Señor Agustin Vasquez, or a company he may organize for the purpose, has received a concession with the privilege of utilizing pasture land, fiber plants, several species of palms, and resinous gum from the plant "guayule," on Government lands, with an area of 61,775 acres.

in the State of Chihuahua. The concession is for the term of ten years, at an annual rental of \$1,200 Mexican (\$562).

IMPORTS AND EXPORTS OF FIREARMS.

The Government, by a circular issued November 30, 1898, places certain restrictions on the importation as well as on the exportation of firearms and munitions of war. Under date of January 28, 1905, the war department further specifies that the following styles of firearms and ammunition shall not be exported or imported: Mauser and Remington rifles and carbines, caliber 7 millimeters (.2758 inch), and Mauser pistols, caliber 7 millimeters (.2758 inch) 63; Remington rifles and carbines of 11 millimeters (.4334 inch), and 13 millimeters (.5122 inch) caliber; and loaded cartridges or empty shells for the arms mentioned and all material used in their manufacture. Artillery material, powder and ammunition, as prescribed by the regulations, is also included in this list. It is also prohibited to import cartridges other than those mentioned, even if not made for the aforesaid arms, if they are of the same caliber and may be used in them.

EXODUS OF MEXICAN LABORERS TO THE UNITED STATES.

The Mexican consul at San Diego, Cal., informs his Government that he has observed a multitude of Mexican contract laborers on the frontier without passports, principally at El Paso, Tex., working on railroads in Texas and other States. The consul says that these people will become victims to their ignorance and the bad faith of labor contractors, who will set them adrift as soon as their services can be dispensed with to turn vagrants, haunting camps and cities, and thus adding to the criminal population of the country. He declares there are more than 10,000 Mexicans who have been induced by labor contractors to go to Arizona and California, doubtless owing to the tempting prospect of receiving pay in gold, and that they are depopulating not only the frontier States, but also those of Durango, Zacatecas, Aguascalientes, and Guanajuato, resulting in a loss to the entire Republic by robbing her of her sons. The consul implores his Government to adopt strict measures for preventing this exodus, and cites the methods employed by the Government of the United States for intercepting undesirable Chinese in their attempts to enter the country.

NEW STEAMSHIP LINE.

The Mexican Congress has approved a contract between the Government and Señor Daniel Garcia, representative of the steamship company "Unione Austriaca de Navigazione gia Austro-Americana Fratelli Cosulich S. A. Trieste" for service between Veracruz and Trieste, touching at Tampico, Progreso, Bahia de la Ascencion, and

ports of Costa Rica, Colombia, and Venezuela; if found advisable, also at Coatzacoalcos, Mexico, Santiago de Cuba, and other ports on the Atlantic and the Gulf of Mexico. It is agreed that steamers before arriving at Mexican ports shall touch at South American ports, and on their return trips touch at these same South American ports during nine months of the year; during the other three months the return trips to be made touching at ports in the United States. Mexico is to have monthly service at all ports mentioned.

W. W. CANADA, *Consul.*

VERACRUZ, MEXICO, *March 10, 1905.*

INDIANS IN CANADA.

(From United States Consul-General Holloway, Halifax, Nova Scotia.)

The census of the Indians of Canada last year showed there were in all 107,978, as compared with 108,233 in 1903, a decrease of 255. In Nova Scotia, however, there was an increase of from 1,930 in 1903 to 1,998 in 1904. In Ontario and Quebec there were also increases of 98 and 83, respectively, but in New Brunswick, Prince Edward Island, British Columbia, Manitoba, the Territories, and outside treaty limits there were decreases. There were 63 deaths and 79 births among the Nova Scotian Micmacs.

In his report Deputy Superintendent Pedley says:

It seems difficult in some quarters to get rid of the idea, at one time quite justified, that the Indian is a dying race, doomed to extinction before the advance of civilization; but facts and statistics fail to support this view of the situation except in so far as concerns the picturesque savage of fiction, who, very greatly to the benefit of himself and his civilized neighbors, has disappeared.

In Nova Scotia the 1,998 Indians have 296 head of horned stock, and 59 horses. A table of the comparative value of their farm produce shows \$10,281 in 1903, against \$13,158 in 1904, while the yields of their fishing were \$3,195 in 1903 and \$4,510 in 1904. Last year, by hunting, the Nova Scotia Indians earned \$5,505, but in 1903 they gained from this source \$5,760. In 1903 they earned in wages \$20,170, and in 1904 \$27,750, while other industries yielded them \$21,526 in 1903, and \$20,320 in 1904. There are eleven Indian day schools in operation in Nova Scotia.

The report of the Indian agent for Halifax County shows the principal points at which Indians are settled are Sheet Harbor, Elmsdale, Wellington, Windsor Junction, Bedford, Dartmouth, and Cow Bay. The population of the bands consists of 35 men, 35 women, and 104 children, located as follows: Thirty-three at Sheet Harbor, Mosers River, and Upper Musquodoboit; 25 at Cole Harbor Reserve and Dartmouth.

and 116 at Wellington, Windsor Junction, Bedford, and Elmsdale. There were no epidemics among them during last year, though they suffered considerably from ordinary ailments. There is no distinctively Indian school in the county. Where possible, Indian children generally avail themselves of the regular schools provided for whites, though some are too careless to appreciate the benefit of schools. The occupations of the Halifax County Indians are chiefly basket making, lumbering, fishing, and hockey-stick making, which latter has contributed substantially to their income of late years. These Indians are of the Roman Catholic faith, and are well behaved as a class, though over indulgence in liquor is sometimes remarked.

In Hants County several Indian families are engaged in farming, and apparently doing better than those who follow other callings.

The houses of the Indians in Pictou County are fairly large and comfortable, and their village at Fisher's Grant presents a pretty appearance.

At Chapel Island, Richmond County, the Indians have a beautiful church, and they gather there from all parts of Cape Breton in July every year to enact laws, make a spiritual retreat, and solemnly celebrate the festival of their patron saint, St. Anne. Most of the Indians on the island are becoming very industrious.

The Indian agent at Shelburne County reports:

The Indians in this agency are all temperate except one, and that one will probably continue to offend in this line so long as the greater offenders who sell to him can not be found.

The Victoria County agent reports that the Indians there seem to be improving materially in their manner of living, and they have neat, comfortable dwelling houses. Numbers are becoming interested in farming. The Yarmouth agent states that within the last two years the Indians show an inclination to settle down and make homes for themselves.

W. R. HOLLOWAY, *Consul-General.*

HALIFAX, NOVA SCOTIA, *March 16, 1905.*

CONFERENCE OF AUSTRALIAN PREMIERS.

(*From United States Consul-General Bray, Melbourne, Victoria.*)

A conference of the premiers of the States of Australia has just been held at Hobart, Tasmania, at the invitation of the prime minister of the Commonwealth, and many important matters have been discussed and settled.

The following is a summary of the matters dealt with by the conference:

The States will convert their agents-general in London into "commercial agents." Only two States, New South Wales and Western

Australia, believe that a high commissioner for the Commonwealth is required at present.

Federal ministers have undertaken to try to secure an amendment of the constitution act in order that federal politicians and public servants may not escape payment of State income taxes.

State ministers have, by suggesting the reimposition of the tea and kerosene duties, indicated a way in which the Commonwealth Parliament could find the money to defray the cost of a Federal old-age pensions scheme. They have also promised to abolish all the differential and preferential railway rates, so that it may not be necessary to appoint an interstate commission.

The opium traffic is to be practically restricted to importations for medical purposes.

Spurious jewelry will have to be sold as "brummagem," and not as a genuine article.

The question of the power of the Federal Legislature to tax the state government imports through the customs is to be tested at once by a friendly action.

The electoral expenditure is to be reduced by the adoption of uniform rolls and scheme of administration wherever possible.

The States are to combine and guarantee an export produce freightage to the amount of at least 200,000 pounds a year to oversea shipping companies which equip their steamers with suitable refrigerating machinery. The postmaster-general is to use this proposal as an inducement for the Orient Company to enter into a contract for the new English mail services.

Free railway passes for life will only be issued in the future to ministers for the Crown after they have served a certain number of years.

The Commonwealth ministry has given the State cabinets notice of its intention to introduce legislation assuming the control of census, astronomical, navigation, quarantine, weights and measures, banking, and cognate matters. The States, on their part, have refused to indorse the proposal to create a Federal agricultural bureau and deprecate the idea of the Federation meddling with rural industries.

The scheme to establish a uniform cadet system has been adopted and remitted to the local education departments for further development.

It has been resolved to maintain the present mode of appointing State governors, though additional economies are to be effected in connection with the maintenance of government houses.

May 24 has been set for a holiday to be known as Empire Day, and special lessons are to be inserted in the State schoolbooks to imbue children with the imperial sentiment.

The Federal and State departments are to be allowed to communicate direct with one another.

Concerted action is to be taken to discover the best means of eradi-

cating the rabbit pest. Several other matters were referred to the governments immediately affected.

The superintendents of the penal establishments in the different States are to meet and report upon the feasibility of adopting the indeterminate sentence system to prevent confirmed criminals preying on the public.

The postal department is to continue to transmit shipping and weather telegrams for the benefit of the public.

JOHN P. BRAY, *Consul-General*.

MELBOURNE, VICTORIA, *February 20, 1905.*

TRADE OF THE COMMONWEALTH OF AUSTRALIA.

(*From United States Consul Goding, Newcastle, New South Wales.*)

According to the report of the Government statistician, the exports of the Commonwealth in 1904 reached the sum of \$280,042,056, an increase of \$38,195,636 over those of 1901, the banner year previously. It is estimated that Australia has to remit annually upon its external indebtedness and the capital it has imported some \$72,997,500, and it has been very seldom that exports have exceeded the imports by anything approaching that amount, yet last year the exports exceeded the imports by \$100,191,502, so that the external tribute was not only paid in full, but some \$26,765,750 in excess thereof. Previously the year of maximum trade was 1901. The imports of the Commonwealth in 1904 were \$36,980,007 less than the imports of 1901, while the exports in 1904 were \$38,193,636 greater than in 1901. It thus appears that while the exports in three years increased \$38,195,636 the imports decreased \$36,980,007, and the reasons for such a striking transformation are well worthy of consideration.

Two causes contributed in 1901 to make the imports the greatest on record. With the advent of federation came the rush of importers to stock the New South Wales market prior to the advent of the new duties, and there is no doubt it swelled the total imports greatly. Then equally effective in the same direction were the extensive borrowings by the New South Wales government and some other States. Since then there is little question that the Commonwealth tariff has somewhat tended to check importations, but the stoppage of borrowing has been even more effective in the same direction. Still, other forces have been at work, which call for attention.

Australia has not only remitted its full-interest bill in produce, but very much more in addition, and what is termed the balance of trade was last year greatly in its favor—far greater than in any previous year. That, however, has not been marked by any access of internal prosperity, for internal trade has ruled dull, especially in New South

Wales, and, though a moderate retail turnover in the necessities of life has gone forward, the spirit of speculation and enterprise has been conspicuously absent. It was that pronounced feature of last year which has resulted in the restriction of the import trade. Although 1904 showed the biggest harvest on record, the Australians could not be induced to launch out as they might have been warranted in doing, because there was a lack of enterprise pervading those who had capital at command.

I regard this vast excess of exports as far from being a healthy indication. True, there has been paid off a considerable amount of indebtedness, and that is to the credit of the Commonwealth. But had the spirit of enterprise continued and had British creditors continued to place faith in Australian conditions, money would have been invested here, probably to the advantage of everyone, and especially to the advantage of the working classes.

F. W. GODING, *Consul*.

NEWCASTLE, NEW SOUTH WALES, *February 8, 1905.*

GERMAN GOVERNMENT AND GERMAN TRUSTS.

(From United States Consul-General Guenther, Frankfurt, Germany.)

The annual report of the chamber of commerce of the district of Essen (chief center of the German iron and steel industries, Krupp Steel Works, etc.) for the year 1904 has been sent to the Prussian minister of commerce. The report discusses at length the contemplated movement of the Government to obtain a controlling influence over the coal trade by acquiring coal mines now in the hands of private individuals and joint stock companies. The object of the Government in obtaining such control is to check the power of the coal trust and to prevent monopolistic abuses whereby the consumers and the industrial interests of Germany may be injured and the miners subjected to rigid rules, low wages, and other undesirable conditions.

The Essen Chamber of Commerce, whose members are mostly mine owners and iron and steel manufacturers, takes strong ground against any governmental control of industrial interests, and says:

The State, already the owner of coal mines, can, by joining the coal syndicate (trust), exert a moral influence over the latter. But if the State wants to go beyond this and means to check other combines and concentrations, then it can only do so with any prospect of success by expropriating to a large extent the iron and transportation interests as well as those of mining. It is mainly this consideration which has caused the elementary movement among industrial circles against the attempt of the Government to obtain control of the Hibernia Coal Mines, for this was generally viewed as being but the initiatory step toward a progressive acquisition of the coal mines by the Government.

In the opinion of this chamber it would prove a futile undertaking to resist the movement of economical concentration, and would be inju-

rious to economic interests. Opinions may differ as to the value or danger of such concentrations, but there is no doubt of the fact that they can not be averted.

The uncontrollable competition of other industrial nations, which is continually gaining strength, compels us to energetically aim at the attainment of the highest ability and utmost reduction of the cost of production in our industrial activity. Therefore the gathering of all forces (i. e., concentration) is one of the most effectual means. To interfere with its employment would be equivalent to depriving our industries of a weapon which they require in the impending contest between the industrial nations.

Since these statements were made the great strike of the German coal miners has occurred, and though ended by the submission of the miners, no lasting peace has been established. Public opinion has sustained the miners; and the Government has sympathized with them and promised to redress their grievances by means of appropriate legislation. The expectation that their demands will be satisfied is what brought about the temporary surrender and prevented aggressive action against the owners of the coal mines. But their enforced submission increased their embittered feeling, and augurs ill for a permanent state of peace in the coal-mining industry.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 24, 1905.*

TWO-CENT CAR FARES IN ENGLAND.

(*From United States Consul Halstead, Birmingham, England.*)

In consular reports from England, and in newspaper and magazine articles written by the many Americans who tour this country for the purpose of investigating municipal systems, there are frequent references to 2-cent street-car fares in England, but I have not seen in any of the writings a clear statement of what is meant by a 2-cent street-car fare.

The average distance one can travel in Birmingham for 2 cents is 1 mile 2 furlongs and 158 yards. The minimum "penny stage" (2-cent distance) is 6 furlongs and 189 yards and the longest penny stage 2 miles and 178 yards. When the leases of the present street-car lines (cable and steam trams and a couple of electric lines) have expired, and Birmingham is in a position to build and conduct an electrical street railway system—and it will be fully 1907 before there can be anything like a complete system—the penny or 2-cent stages will not extend over 2 miles.

It has always seemed to me that street-car travelers who can afford to take short rides are the ones who can afford to pay full fares. The penny (2 cent) system of charges for a given distance, and between arbitrary points, offers transit facilities of a less accommodating, because less flexible character to the average street-car user, as com-

pared with a single fare of 5 cents for any distance. It favors those residing near one of the termini or "penny stages" and any of the public who happen to be near a "penny stage" when wishing to use a street car, and particularly when the needs are to go to a point near a terminus or "penny stage." The system also practically excludes the adoption of the transfer system, a facility so much appreciated by street-car users in the United States. If a person's business place is 25 yards from a "penny stage" and his home 20 yards beyond the next "penny stage," and he wishes to ride all the way home, and the "penny stage" is 2 miles, which will be the maximum stage of the new systems in Birmingham, the street-car fare would be 6 cents for 2 miles and 45 yards.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *March 8, 1905.*

INTERNATIONAL PROTECTION OF TRADE-MARKS.

(*From United States Consul Haynes, Rouen, France.*)

The protection of trade-marks is of such importance that several countries, France among them, have formed an international service of registration. The institution has its sittings at Berne, in the offices of the Industrial Protection Union. Its object is to give the same protection in all of the contracting countries as is given to the owner of the mark in his own country. The contracting countries are Belgium, Brazil, Spain, France, Italy, Netherlands, Portugal, Switzerland, and Tunis.

A decree dated May 20, 1903, stipulates that every owner of a trade-mark regularly registered in France who desires that his work be protected in the contracting States, or those that may hereafter subscribe, must pay into the Central Receiving Bank of the Seine, or, in the departments into the bank of the General "Trésoriers-Payeurs," the sum of 25 francs (\$4.82). The payment of this sum, which should be addressed to "l'Office National de la Propriété Industrielle," 292 rue St. Martin, Paris, should be accompanied by the following précis: (1) A request to obtain the registry of the mark at the international office at Berne, accompanied by the name, profession, and address of the applicant and the date and number of registration of the mark in France; (2) three copies of the mark, and in case of colors four copies, designating the exact color; (3) a stereotype plate not less than 45 millimeters (1.77 inches) reproducing exactly the mark (this plate will be filed in the International Bureau); (4) the receipt for a post-office money order to the bureau at Berne for 100 francs (\$19.30) for a single mark, and for 50 francs (\$9.65) for any thereafter; (5) a power of attorney duly registered if the demand is made through another party.

A fulfillment of these formalities procures protection in the nine countries mentioned, as well as in all other States that may later adhere to the programme. The duration of protection is twenty years, a renewal being allowed by the fulfillment of all the conditions as in the first instance.

For the first mark registered in France alone 125 francs (\$24.13) must be paid, and 75 francs (\$14.48) for each one thereafter. In all the other contracting States named for each trade-mark registered the cost is 240 francs (\$46.32). This latter sum embraces the official cost, exclusive of the expenses of application, authentication, translation, etc.

It will be seen that the services of the bureau are of considerable value both as to price and simplicity, not to mention the great advantages to be derived. All information is furnished gratis by the Bureau International de la Propriété Industrielle, Berne, Switzerland.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *February 13, 1905.*

ELECTRIC TABLET SYSTEM ON NEW ZEALAND RAILWAYS.

(From United States Consul-General Dillingham, Auckland, New Zealand.)

On August 1, 1904, I sent to the Department of State a summary of the "electric tablet system" in use on the railways in this colony to prevent collisions, which was published in Daily Consular Reports for October 1, 1904, No. 2070. Since then this consulate-general has received many letters from railway men throughout the United States asking for a detailed supplemental report on this subject, which, through the courtesy of the general manager, I now present.

Whenever the term "officer in charge" is used it is understood to mean the station master, signalman, or other employee who is in charge of the tablet apparatus for the time being, and he only is authorized to receive and deliver the tablets and to remove them from or place them in the apparatus.

PURPOSE OF THE SYSTEM.

The purpose of the electric train tablet system is to prevent more than one train being between any two tablet stations at the same time, and when no train is in the section between the tablet stations to permit a train to be started from either end. This is accomplished by every train carrying a tablet, one tablet only being obtainable from the tablet instruments of the same section at the same time.

The apparatus is so constructed as to render the issue of the train tablet absolutely safe at either end of a section and under the control of the station which the train is approaching. No train tablet can be issued from station Y without the consent and cooperation of station

Z, and when once a station has issued a train tablet no other tablet can be obtained for the same section until the one issued has been delivered at its destination and placed in the instrument there or reinserted in the instrument from which it was withdrawn.

The meeting place of trains can be altered immediately with perfect safety.

The signaling of trains on the electric train tablet system does not in any way dispense with the use of fixed, hand, or fog signals whenever and wherever such signals may be requisite to protect obstructions on the line.

THE APPARATUS.

The apparatus (see diagram) consists essentially of a slide, R; a bell plunger, B; a switch plunger, C; a slide, S; a visual signal, V, showing three positions—"Line closed," "Up train approaching," or

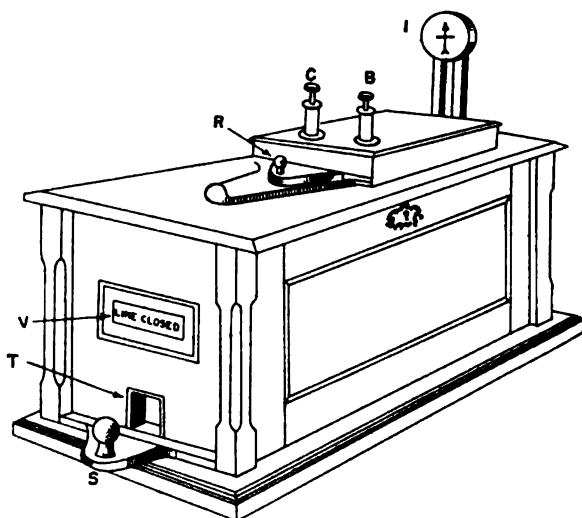


Diagram of electric tablet apparatus.

"Down train approaching," and "Up train on line" or "Down train on line;" a slot, T, and an indicator, I.

The slide R is for the purpose of inserting tablets into the apparatus, and can be withdrawn at will.

The bell plunger serves to transmit all signals on the bells, according to the code.

The switch plunger C is for the purpose of switching the current into electro-magnets to unlock slide S.

The slide S is kept locked, and can not be withdrawn without the consent and cooperation of the man at the distant station after signals have been exchanged in accordance with the code.

The slot T is to show the tablets in the cylinder of the apparatus.

The indicator I indicates all signals sent on the bell plunger from either end.

GENERAL REGULATIONS.

CUSTODY AND TRANSFERENCE OF TABLET.

Except as provided in Regulation 23, the officer in charge of the tablet working for the time being is the sole person authorized to take a tablet from or place it in the instrument, and to receive the tablet from and deliver it to the engineer, provided, however, that the officer in charge of the tablet working may, in exceptional cases, specially appoint a member of the station staff, duly qualified to act, and delegate to such member the duty of delivering the tablet to and receiving it from the engineer. The member so appointed will be held responsible for the safe custody of the tablet given him, and for the prompt and proper discharge of the duty assigned to him. The engineer, while the tablet is in his charge, must carry it in the socket or other place provided for the purpose. Under no circumstances, except as provided in Regulations 10, 27, and 27*a*, must a tablet be transferred from one train to another without being passed through the instrument and dealt with in accordance with these regulations. The number of the tablet carried by each train must be entered in the train register book.

ENGINEER NOT TO START WITHOUT TABLET AND PROPER SIGNALS BEING EXHIBITED.

Except as provided in Regulations 27*a*, 28, and 31, an engineer will render himself liable to dismissal if he leaves a tablet station without the tablet for that section of the line over which he is about to run, or unless it has been shown to him as required by the following paragraph, and by Regulation 18.

When a train has more than one engine in front, or when two or more light engines are coupled together, the tablet must be shown to each engineer, and be delivered to and carried by the engineer of the last engine.

After receiving the tablet the engineer must not proceed until all the necessary fixed or other signals have been exhibited. He must keep the tablet under his own charge (except as explained in Regulations 27, 27*a*, and 34) until he reaches the end of the section, when he must give it up to the signaller or other duly authorized person. The tablet is an indication that the line is clear only to the home signal at the station or junction in advance, and engineers must regulate the speed of their trains accordingly.

Engineers must be extremely careful not to take the tablet beyond the station at which it ought to be left.

Engineers must reduce the speed of their trains when passing a tablet station at which they are not scheduled to stop, so as to admit of their safely delivering and receiving the train tablet.

The person in charge of the tablet working will render himself liable to severe punishment should he contribute to any irregularity in the tablet working.

Each tablet has engraved or marked on it the name of the tablet station at each end of the section to which it applies, and the tablets of adjoining sections are different in shape.

NORMAL POSITION OF FIXED SIGNALS.

(*a*) "Danger" signals must always be kept exhibited at all the fixed signals at tablet stations except when it is necessary to lower or turn

them off for a train to pass, and before any signal is lowered or turned off care must be taken to ascertain that the line on which the train is about to run is clear and that these and other regulations have been duly complied with.

(b) At places which are not tablet stations the "All right" signal must, unless special instructions to the contrary are issued, be kept exhibited at all the fixed signals (where such signals are provided), except when required to be placed at "Danger" for the protection of trains having to stop in the section or of any other obstruction that may exist on the main line which the signals are intended to protect.

WORKING FIXED SIGNALS.

(a) When trains which have to pass each other are approaching a tablet station in opposite directions the signals in both directions must be kept at "Danger," and when the train which has to be first admitted into the station has been brought to a stand, or nearly to a stand, the home signal applicable to such train may be lowered to allow it to draw forward to the station or to the starting signal, and after it has again come to a stand and the signalman has seen that the line on which the other train will arrive is quite clear the necessary signals for that train may also be lowered.

(b) Where starting signals or advanced starting signals are provided, except in the cases referred to in Regulations 27, 27a, 28, and 31, the starting signal or the advanced starting signal must not be lowered until a tablet has been obtained for the train to proceed to the tablet station in advance.

BELL SIGNALS.

Code of bell signals for tablet working, with references to regulations for their use.

Regulation.	Meaning of signal.	Signal, how given (beats of bell).
a1	Speak on telephone.....	1.
3, 4	Is line clear for:	
	Ordinary passenger train.....	4, consecutively.
	Fast train ^b	2, pause, 2
	Mixed train.....	5, consecutively.
	Empty carriage train.....	2, pause, 2, pause, 1.
	Goods train or engine and break.....	6, consecutively.
	Ballast train.....	3, pause, 3
	Light engine.....	2, pause, 2, pause, 2
	Train or engine entering section to return to starting point.....	3, pause, 2, pause, 1.
5	Departure signal for any class of train.....	2, consecutively.
6	Arrival signal for any class of train.....	3, consecutively.
7	Canceling "departure" or "line clear" signal.....	3, pause, 4.
8	Obstruction—danger.....	7, consecutively.
8	Obstruction removed.....	2, pause, 3, pause, 2.
9	Release tablet for shunting.....	5, pause, 2.
9	Shunting completed; tablet replaced.....	2, pause, 5.
10	Train passed without tail signal to box in advance.....	2, pause, 4, pause, 2.
10	Train passed without tail signal to box in rear.....	3, pause, 2, pause, 3.
11	Stop and examine train.....	8, consecutively.
12	Train divided.....	2, pause, 6.
13	Train or vehicle running away.....	3, pause, 3, pause, 3.
14	Shunt train for following train to pass.....	2, pause, 5, pause, 2.
15, 16, 17	Engine assisting.....	9, consecutively.
18	Return bank engine.....	5, pause, 5.
18	Bank engine has returned.....	10, consecutively.
19	Repeat signal.....	2, pause, 6, pause, 2.
20	Signal given in error (cancel signal last given).....	3, pause, 4, pause, 3.
21	Testing signal.....	2, pause, 7, pause, 2.
22	Opening of "switch out" station.....	6, pause, 6.
22	Closing of "switch out" station.....	4, pause, 4, pause, 4.
23	Transference of tablets by line-man.....	12, consecutively.

^aThis signal is only for use where the telephone is operated upon the same wire as the tablet instruments, and must not be used in case independent telephone connections are supplied.

^bMail and express trains, or any that may be shown as "fast" in ordinary or special time tables and casualty vans or relief engines are to be so signaled.

No private signals of any kind may be sent by the bell. All signals must be sent slowly and distinctly, the bell plunger or key being allowed to work the full length of its stroke between each beat, and under no circumstances may the officer in charge work with two stations at the same time. The time at which all signals are sent or received shall be immediately entered in the train-register book in ink, "speak on telephone" signals excepted. If the officer in charge receives a signal which he does not understand, he must immediately stop any train from entering the section and reply by giving the "Repeat" signal. No signal is complete until it is correctly acknowledged, and all signals must be slowly repeated until properly acknowledged.

MISCELLANEOUS.

When the tablet instruments are not in use the words "Line closed" are shown on the screens and the needle indicators are in the vertical position. •

BELL SIGNALS.

The instruments must not under any circumstance be subjected to violent usage, and all movements should be steady and distinct one from the other.

As it is essential that the tablets be free from dirt and grit, the officer in charge must, when necessary, wipe the tablets on both sides before placing them in the slide.

SPECIAL REGULATIONS REGARDING USE OF SIGNALS AND APPARATUS.

1. TABLET AND TELEPHONE SWITCH.

At stations where the telephone is operated upon the same wire as the tablet instruments, by means of a switch, when it is necessary to speak on the telephone, give one beat on the tablet bell plunger, and when this signal is acknowledged turn switch to "up" or "down" telephone, as the case may be, and speak. The officer in charge receiving the telephone signal must, after acknowledging, also turn his switch to "up" or "down" telephone, as the case may be, and listen. When speaking is finished the switches must at once be turned to their normal position again.

2. REPETITION AND ACKNOWLEDGMENT OF SIGNALS.

Except when special instructions are issued to the contrary, all signals must be acknowledged by repeating them, and no signal must be considered as understood until it has been correctly repeated to the tablet station from which it was received.

When the "Is line clear?" signal is not acknowledged, it must be given again at short intervals.

3. MODE OF SIGNALING.

Let A and B represent the stations at each end of a tablet section. A has a train ready to enter the section and proceed toward B. A

gives B the signal "Is line clear?" as per code. B replies by repeating the signal. A holds down on his bell plunger, marked B. B depresses his switch plunger with his left hand, and at the same time withdraws his slide S with his right hand. The withdrawal of this slide (which can only be half way) will reverse the commutator in the instrument, and will bring the signal "Up train approaching" or "Down train approaching" in view.

B will then depress his bell plunger, holding down on same for a few seconds. A, upon receipt of this signal, will hold down on his switch plunger with his left hand, and withdraw his slide S to its full extent with his right hand, which will bring the signal "Up train on line," or "Down train on line," in view. A will remove the tablet from the recess in slide, and hand it to the engineer. A will give the "Departure" signal to B.

As soon as the train arrives at B, B withdraws slide R, inserts the tablet, and pushes slide home. The passing of the tablet into the cylinder unlocks his instrument, and B then pushes in slide S, which restores his visual signal to "Line closed." He will then give A the "Arrival" signal, holding down on the last beat. A, upon receipt of "Arrival" signal, will depress his switch plunger, and push home his slide S, which will at the same time restore his visual signal to "Line closed."

For a tablet taken out for shunting or for the purpose of entering some intermediate siding and being returned to the station from whence it was issued, the manipulation of the machine is practically the same: the man who issues the tablet merely returns it into his machine by means of the slide R, which will restore the apparatus after the passing of the usual signals.

During the transit of the train between A and B, no second tablet can be withdrawn, the apparatus at both stations being locked. The signalmen at each end of the section have at all times an absolute record of what has been done on both instruments, which record can not be disturbed until the tablet has been restored to the apparatus at either one end or the other.

The normal position of both instruments at A and B will be "Line closed."

4. LINE CLEAR (GIVING PERMISSION FOR A TRAIN TO APPROACH).

(a) Unless special instructions are issued to the contrary the line must be considered clear, and "Line clear" given for trains to approach from either or both directions in accordance with Regulation 3, when the line is clear up to the home signal posts.

(b) When the approaching train for which "Line clear" is asked is a nonstopping train, or the station for which "Line clear" is asked is on a grade or near the foot of a grade, "Line clear" must not be given unless the running line between the home signal posts is clear, and after "Line clear" has been given the running line between the home signal posts must not be obstructed except to allow a train arriving from the opposite direction to enter the station.

If the line be not clear, or if from any other cause the officer in charge be not in a position to give permission for the train to approach when the officer in charge in the rear forwards the "Is line clear?" signal, that signal must not be acknowledged, but the "Obstruction—danger"

signal must be sent. When the officer in charge to whom the "Is line clear?" signal has been sent is prepared to receive the train he must give the "Obstruction removed" signal, which must be acknowledged, and any train requiring to proceed in either direction must then be signaled in accordance with these regulations.

5. DEPARTURE SIGNAL.

"Departure" signal to be given on the departure of a train into the outward section. (For exceptions see clause *d* of the banking engine instructions, Regulation 18.)

6. ARRIVAL SIGNAL.

"Arrival" signal to be given when a train or engine arrives at a station and the officer in charge has seen that the train is complete and under the protection of the home signal.

7. CANCELING SIGNAL.

Should it be necessary to cancel the "Is line clear?" or "Departure" signals, the officer in charge must restore the tablet to the instrument and send the "Canceling" signal to the tablet station in advance, which signal must be acknowledged. An entry must be made in the train register book recording the fact that the signal has been canceled. The "Canceling" signal must not be used unless the "Is line clear?" or "Departure" signals have been acknowledged or accepted, and must be used only when a train has been signaled to the tablet station in advance and it is found that such train will not proceed in the usual course.

8. OBSTRUCTION—DANGER.

(a) Should it be necessary, in consequence of obstruction or other causes, for an approaching train to be stopped at the tablet station in the rear, the "Obstruction—danger" signal must be forwarded to that station, and the officer in charge, after receiving such signal, must immediately exhibit the "Danger" signal and take the necessary measures to stop the approaching train. He must not allow the train to proceed until he has received from the tablet station in advance the "Obstruction removed" signal, nor until the proper signals have been sent and acknowledged.

(b) If necessary, the "Obstruction—danger" signal must be sent in both directions.

(c) The officer in charge forwarding the "Obstruction—danger" signal must also have the signals placed or maintained at "Danger," to protect the obstruction.

(d) Should the officer in charge, receiving the "Obstruction—danger" signal, succeed in stopping a train for which the "Is line clear?" signal has been accepted by the officer in charge at the tablet station in advance, he must at once restore the tablet to the instrument and advise the officer in charge at that station by giving the "Canceling" signal.

(e) Should he not succeed in stopping the train he must advise the station in advance to that effect.

(f) The "Obstruction—danger" signal is not to be used for ordinary shunting or crossing operations after a tablet has been issued when such operations are carried on inside the home signal of the station for approach to which the tablet has been issued.

9. RELEASE TABLET FOR SHUNTING.

(a) To obtain a tablet for shunting the officer in charge must send the "Release tablet for shunting" signal to the next tablet station, and the officer in charge there must, provided he is in a position to accept such signal, acknowledge it and give permission for a tablet to be withdrawn.

(b) When the shunting is completed and the single line is again clear the tablet must be replaced in the instrument and the "Shunting completed—tablet replaced" signal sent to the next tablet station.

(c) If an officer in charge is not in a position to release a tablet for shunting purposes, owing to his requiring to pass a train into the section, he must reply to the "Release tablet for shunting" signal by the "Obstruction—danger" signal, and as soon as that signal has been acknowledged send the "Is line clear?" signal.

10. TRAIN PASSED WITHOUT TAIL LAMP.

(a) All trains and light engines will carry a tail lamp in the rear, both by day and by night, to indicate to the officer in charge that no vehicle has become detached on the journey, and officers in charge must carefully watch each train as it passes, and satisfy themselves that it is complete before giving the "Train arrival" signal to the tablet station in the rear.

(b) If a train should pass with tail lamp missing or out the officer in charge must send the "Train passed without tail lamp" signal to the tablet station on each side of him, but must not deposit the tablet in the instrument. The officer in charge at the tablet station in advance must stop the approaching train and ascertain from the guard whether his train is complete. If the train is complete the officer in charge must give the "Arrival" signal, and the officer in charge at the tablet station from which the "Train passed without tail lamp" signal was sent must then deposit the tablet in the instrument and give the "Train arrival" signal to the station in the rear.

Should the officer in charge become aware as the train passes into the section in advance, or on receipt of information from the tablet station in advance that a portion of the train has been left behind, steps must be taken to clear the obstruction before any other train is allowed to enter the section, the first available engine at either end of the tablet section being detached from its train for the purpose of clearing the line.

(c) If the engine which is to remove the obstruction starts from that end of the section where the tablet is out of the instrument, the officer in charge must hand such tablet to the engineer, and instruct him to proceed cautiously to the vehicle or vehicles which have become detached, and remove them to the most convenient end of the section.

(d) If, however, the relieving engine is to start from the other end of the section, then the tablet must (after all arrangements are made) be placed in the instrument so that one may be withdrawn at the other

end of the section to enable the relieving engine to proceed to the vehicle or vehicles which have become detached, and remove them to the most convenient end of the section.

(e) In either case the officers in charge at each end of the section must communicate with each other and arrive at a clear understanding how the obstruction is to be removed.

(f) The engine sent into the section to clear the obstruction must be dealt with as laid down in Regulation 27.

(g) If a train should pass with a tail light out when it should be burning, and the officer in charge can plainly see the lamp, and is satisfied that the train is complete, he must give the "Train arrival" signal to the tablet station in the rear and the "Train passed without tail lamp" signal (2, pause, 4, pause, 2, beats) to the tablet station in advance, and when practicable, also telegraph or telephone to the tablet station in advance, stating that the lamp is not missing, but out. In such cases it will not be necessary for the officer in charge sending the signal to stop any train going in the opposite direction, but the officer in charge in advance must stop the approaching train and inform the guard of the circumstances.

11. STOP AND EXAMINE TRAIN.

(a) If an officer in charge observes anything unusual in a train during its passage, such as signals of alarm by a passenger, goods falling off, a vehicle on fire, a hot axle box, or other mishap, except a tail lamp missing or out or a train divided (for arrangements as to which see Regulations 10 and 12), he must give to the officer in charge of the tablet station in advance the "Stop and examine train" signal, and the officer in charge at the tablet station in advance must acknowledge that signal and immediately exhibit the "Danger" signals to stop the train coming from the tablet station from which the signal was received. The train when stopped must be carefully examined and dealt with as occasion may require.

(b) Should the officer in charge who receives the "Stop and examine train" signal be unable to ascertain after examination of the train why the signal was sent, he must, if the next train is traveling in the opposite direction, inform the engineer of the circumstances, and instruct him to proceed cautiously to the next tablet station. He must also communicate with the officer in charge who forwarded the signal, in order that the latter may, if necessary, caution the engineer of the next following train.

(c) When practicable the officer in charge must also telegraph or telephone to the tablet station in advance the cause of sending the "Stop and examine train" signal. Officers in charge must be careful to notice each train as it passes, to ascertain whether there is any apparent necessity for having it stopped at the next tablet station for examination.

(d) Should either officer in charge have reason to believe, in the case of a vehicle being off the rails or goods falling from the train, that the permanent way has been damaged or fouled, he must not allow any train to proceed in the direction of the obstruction until the line has been examined and he is satisfied that it is safe for the passage of the train.

12. TRAIN DIVIDED.

(a) This signal must be sent to the tablet station in advance in the event that an officer in charge observes that a train has become divided and is running in two or more parts.

If the train is assisted by a bank engine in the rear, or is running on a falling gradient or on short sections; where the stoppage of the first part would risk a collision with the second part, the officer in charge receiving such signal, if the line upon which the divided train is running be clear ahead for it to run upon and permission has not been given for a train to approach from the opposite direction, must not exhibit the signal to stop the first portion, but must give the engineer a green flag and a white flag held together and waved apart at frequent intervals by day, or a lamp showing in quick alternations green and white lights at night; and the engineer on seeing the signal will understand that his train is divided, and must exercise great caution by looking out for the second portion, and unless he has reason to believe the line is not clear ahead must not stop the portion attached to his engine until he is satisfied that the rear portion has been stopped or is running very slowly. He must, however, observe and obey any signals that may be exhibited against him. If the line be not clear into the next section ahead, the officer in charge must keep the signals at "Danger" against the approaching train.

As soon as the first portion of the train has passed, the officers in charge sending and receiving the "Train divided" signal must take proper measures for dealing with the second portion, and place detonators on the rails to attract the attention of the guard, or of the bank engineer, should there be a bank engine in the rear.

(b) If the divided train is running on a rising gradient, or where the line is level, and is not assisted by a bank engine in the rear, the officer in charge receiving the signal must exhibit the "Danger" signal to stop the train. The first portion of the divided train, when stopped, must be shunted into a siding as expeditiously as circumstances will permit or otherwise dealt with as may be necessary, to prevent the second portion coming into collision with it.

(c) No train must be allowed to enter the section until it has been ascertained that the line on which it is about to run is not obstructed.

(d) Should a train become divided in starting, and the engineer run forward with the first portion, leaving the rear portion stationary, the "Stop and examine train" signal must be sent to the tablet station in advance, and not the "Train divided" signal.

13. VEHICLES RUNNING AWAY.

(a) If any vehicle, train, or portion of a train is running away, the officer in charge at the tablet station toward which the train or portion of the train is running, must be advised of the fact by the officer in charge at the tablet station in the rear, who shall give the "Vehicle running away" signal. The officer in charge receiving this signal must stop any train about to proceed on the same line, and take any other measures that may be necessary, such as turning the runaway train onto another line or into a siding, or repeating this signal to the next tablet station, as may be most expedient under the circumstances.

(b) The first train traveling in either direction must not be allowed to proceed until it has been ascertained that the line on which it is about to run is not obstructed.

(c) The officer in charge at the tablet station from which the runaway vehicle or train has started, or any other officer in charge whose station may be passed by the runaway vehicle or train, must immediately give the "Obstruction—danger" signal to the officer in charge at the tablet station toward which the runaway vehicle or train is traveling, before giving the "Vehicles running away" signal, as prompt action on the part of both officers in charge may prevent a mishap. Should the officer in charge receiving the "Obstruction—danger" signal succeed in stopping the train or engine for which he has given the "Is line clear?" signal, he must restore the tablet to the instrument and then advise the officer in charge in advance by giving the "canceling" signal.

14. SHUNT TRAIN FOR FOLLOWING TRAIN TO PASS.

This signal must be used to prevent important trains being delayed by less important trains. When, before the "Train arrival" signal has been received from the tablet station in advance for the last train, the officer in charge receives a signal from the tablet station in the rear for a more important train, the "Shunt" signal must be sent to the tablet station in advance, and the officer in charge there, on receiving this signal, must take the necessary measures to clear the line, so as to prevent delay to the second train. The officers in charge forwarding and receiving the "Shunt" signal must make a note of it in their train register books.

15. "ENGINE ASSISTING" SIGNAL.

The "Engine assisting" signal is to be given when a train is assisted by an engine intended to run through the section. The train must be signaled in the usual manner by the "Departure" code, denoting the description of train; and immediately after the train has entered the section the "Engine assisting" signal must be given, which must be acknowledged. The "Arrival" signal must not be given until the whole of the train, including the assistant engine, has arrived and is under the protection of the home signal.

The officer in charge in advance must be informed on the speaking instruments of the position of the engines assisting. Officers in charge are specially instructed to enter in their train register books the "Engine assisting" signal, in order that no mistake may arise by trusting to their memory.

16. ENGINE ASSISTING.

(a) When a train is assisted by a second engine in front, the engineer of the engine next the train must carry the tablet.

(b) When a train is assisted by an engine in the rear, the engineer of the rear engine must carry the tablet; but the engineer of the train engine will be held personally responsible for seeing, before starting, that the engineer of the rear engine is in possession of the tablet for the section over which he is about to travel, and the rear engine must

in all cases run the entire length of the tablet section, except in cases where the banking engine key is in operation, as provided for in clause *a*, Regulation 18.

(*c*) When a train is assisted by an engine in the rear, and the train engine becomes disabled so that the train can not be taken forward, the engineer of the assisting engine must retain the tablet until he has removed the whole of the train, including the disabled engine, to the tablet station in the rear. In the event of the assisting engine in the rear of any train failing, the engineer of the train engine must send his fireman to the engineer of the assisting engine and obtain from him an order in writing, which must be indorsed by the guard of the train, stating that the engineer of the assisting engine is in possession of the train tablet, and authorizing the engineer of the train engine to return from the tablet station in advance for the remainder of the train. The train engine must then proceed to the tablet station in advance with that part of the load which the engine can take. The engineer, after informing the officer in charge what he is about to do and showing him the written order, must return and remove the rear portion of his train and the disabled engine.

(*d*) The necessary steps must be taken to protect the assisting engine and the rear portion of the train, as provided in rule 98.

17. TWO OR MORE LIGHT ENGINES COUPLED.

When two or more light engines coupled together have to pass over a tablet section, the rear engine must carry the tablet; but the engineers of the leading engines will be held personally responsible for seeing, before starting, that the engineer of the rear engine is in possession of the tablet for the section over which they are about to travel, and they must not be uncoupled except at a tablet station under the protection of the home signal.

18. WORKING OF RETURN BANK ENGINES.

(*a*) To facilitate the working of trains requiring assistance in the rear over steep gradients on those portions of the line where the electric train tablet is in operation, and where it is not necessary for the banking engine to run the entire length of the tablet section, the engineer of the train engine will carry the tablet, and the engineer of the bank engine in the rear of the train will carry a "bank engine key" (described below), to enable him to return to the station from which it was received.

(*b*) At stations where an electric switch lock is provided it is attached to the electric train tablet instrument, and is controlled by a special key called a bank engine key, which, when turned and withdrawn from the switch lock, disconnects the electric circuit of the tablet instruments so that no tablet can be obtained nor communication made on the instruments at either end of the section until the bank engine key has been returned and the electric switch locked. This bank engine key, which must only be carried by an engine assisting a train in the rear, is provided with a large ring, on which is engraved "Bank engine key," the name of the station from which the bank engine starts, and the number of miles the bank engine is authorized to run before returning.

(c) If a train is assisted in the rear by a bank engine, and such engine requires to run the entire length of the section, Regulations 15 and 16 must be strictly carried out.

(d) If a train is assisted in the rear by a bank engine, and the latter is not required to travel the entire length of the section, the train which is assisted must be signaled in the usual manner and the tablet obtained from the instrument. When this has been done and the train is ready to start, the "Departure" signal must be given and acknowledged. Immediately after the "Departure" signal has been given and acknowledged, the "Return bank engine" signal (5, pause, 5) must be given, to indicate that the train is assisted by a bank engine in the rear, and that such engine will not run the entire length of the section, which signal must be acknowledged by repeating it. The officer in charge will, after the "Return bank engine" signal has been acknowledged, remove the bank engine key from the electric switch lock and take the key, together with the tablet, to the engineer of the train engine, to whom he must deliver the tablet and from whom he must obtain an acknowledgment on the prescribed form, and at the same time show him the bank engine key and verbally inform him that such key will be handed to the engineer of the bank engine.

The bank engine key, together with the acknowledgment of the engineer of the train engine that he is in possession of the tablet, must then be handed to the engineer of the bank engine.

The engineer of the bank engine must intimate to the engineer of the train engine that the bank engine key and the acknowledgment are in his possession by giving three whistles—one long, one short, one long—and until such intimation is received the engineer of the train engine must not proceed on his journey.

(e) On the arrival of the bank engine at the point to which it is authorized to run the engineer must return at once to the station from which he received the bank engine key and hand it to the officer in charge, who must place it at once in the electric switch lock and give the "Bank engine has returned" signal (10 beats, consecutively), which signal must be acknowledged by repeating it.

(f) The bank engine key must never be used or taken out of the electric switch lock for any other purpose than for a bank engine assisting a train in the rear for a specified distance and in accordance with these instructions.

(g) Should the bank engine fail the engineer must hand the bank engine key to the fireman, who will take it to the station from which it was issued and inform the officer in charge of the failure and the circumstances, and the officer in charge will then arrange for a relief engine to proceed to the disabled engine to bring it in. The engineer of the relief engine must, before approaching, be in the possession of the bank engine key, which key must be handed to him personally by the fireman of the disabled engine and shown to the signalman before leaving. The fireman must also accompany him to the place where the disabled engine was left. If, however, it is considered that assistance can be more readily obtained at the station to which the train assisted by the bank engine was traveling, the engineer must give the fireman the bank engine key and written instructions to the officer in charge, authorizing a relief engine to come to his assistance. The officer in charge, after being informed of the circumstances, reading the written instructions of the engineer, and seeing that the key is

in possession of the fireman, must arrange for a relief engine to be sent to the disabled engine to take it to the other end of the section.

The engineer of the relief engine must, before proceeding to the assistance of the disabled engine, be in possession of the written instructions from the engineer of the disabled engine, which must be handed to him personally by the fireman of the disabled engine, who must at the same time show the engineer of the relief engine the bank engine key, and accompany him to the place where the disabled engine was left. Before the relief engine leaves the written instructions, the bank engine key must be shown to the signalman. On arrival at the disabled engine the bank engine key must be handed over to the engineer of the relief engine.

(h) The disabled bank engine must always be taken to the station from which it started, and the engineer of the relief engine must not deliver the bank engine key to the officer in charge until the line is clear. The fireman must not on any account allow the key out of his possession until he hands it over to the engineer of the relief engine, and the engineer of the relief engine must not allow it to pass out of his possession until the disabled engine has been removed from the section. The engineer of the disabled engine must protect his engine in accordance with rule 98 in the Book of Rules and Regulations, and must not on any account move his engine after having parted with the bank engine key.

(i) If a return bank engine should fail when assisting a train, and the train engine is unable to take the whole of the train forward, the engineer of the train engine must send his fireman back to the engineer of the bank engine and obtain his assurance in writing, indorsed by the guard of the train, that the rear portion of the train will not be moved until the train engine returns for it. The bank engine must then be removed in accordance with instructions in clauses g and h.

(j) If the fitter is not on hand to restore communication, pilot guard working is to be instituted when the bank engine key is lost or damaged, and bank engine working is to remain suspended until communication is restored.

If the key is lost, the bank engine having returned, and the bank engine key form being in the possession of the officer in charge, the switch lock may be cut out by the fitter in the presence of the officer in charge, and both—viz, officer in charge and fitter—must sign an indorsement on the last form used, setting forth the circumstances. This bank engine key form is to be held by the officer in charge until the key is found or substitute is provided. A substitute can only be provided when a complete understanding has been come to between the traffic superintendent or district traffic manager and the electrical engineer.

If the key is damaged so that it will not open the lock, the fitter may cut out the lock if the key and form are in possession of the officer in charge, and so restore communication. If, however, the key has to be taken away by the fitter for repairs, this can only be done after the fitter has given the officer in charge a receipt for it.

In all cases of loss or damage to the key, or if it fails to work and the pilot guard working has been arranged, communication must never be restored either by cutting out or by means of the key until pilot guard working has been canceled and the pilot guard is present. If a lost key is found it must be locked away by the officer in charge until pilot guard is present and pilot working canceled.

RETURN BANK ENGINE KEY FORM (MISCELLANEOUS 30).

No. Station, 19..

TO THE ENGINEER OF THE BANK ENGINE ASSISTING TRAIN:

I have received the electric tablet for train to proceed from to and have seen the "bank engine key" for the bank engine to assist this train to mileage

..... Engineer.

(On the return of the bank engine, this form must be delivered with the bank engine key to the officer in charge at the station from which it was received.)

19. REPEAT SIGNAL.

The "Repeat" signal is to be given when a signal is not understood, and it is necessary to have the signal repeated.

20. ERROR SIGNAL.

The "Error" signal is to be given when an erroneous signal has been sent or it becomes necessary to cancel the signal previously given. This will cancel the last signal sent.

21. TESTING SIGNAL.

The "Testing" signal is to be used by the electrical engineer's staff when testing the instruments. It is to be acknowledged by repetition, and must only be given when the section is clear.

22. OPENING AND CLOSING OF "SWITCH OUT" STATIONS.

At stations where "switch out" instruments are in use the following instructions must be strictly carried out in switching out and switching in:

Let A, B, and C represent three tablet stations, and B the station to be switched out during specified hours.

Switching out.—When the time arrives for B to switch out, the officer in charge at that station must give the "Closing" signal to A and C, respectively. If these stations are prepared to allow B to switch out, they must acknowledge by repeating the "Closing" signal; but if they are not prepared, they must acknowledge by one beat. Until A and C have given permission to B to switch out by repeating the "Closing" signal, B must not in any way interfere with the closing portion of the apparatus, but, after permission has been given, B will switch his apparatus out in accordance with the instructions attached to the apparatus, and will then inform A and C by telephone that he has switched out. A and C will then switch out their "intermediate" or B apparatus in accordance with the instructions attached to the apparatus, and then inform B by telephone that they have switched out.

When the above operations are complete, B will be switched out, and through A and C tablet apparatus ready for use; but before any tablet is issued the "Testing" signal must be given by A and acknowledged by C, in order that it may be seen that all connections are complete. If the "through" section (A-C) is complete, A will inform B by telephone of the fact. B must not leave the station until he has been advised that the "through" apparatus is in working order.

Switching in.—Before B attempts to switch in, he must ascertain by telephone whether there are any trains in the section or tablets out of either apparatus; if there are, he must wait until the section is clear. On being informed that the section is clear and that no tablets are out of their apparatus, he must advise A and C that he is ready to switch in. A and C, upon the receipt of this information, will proceed to switch in their “intermediate” apparatus in accordance with the instructions attached thereto, and then inform B that they have switched in. B will then switch in his apparatus in accordance with instructions attached thereto, afterwards giving to A and C the “Opening” signal, which must be acknowledged by both stations, and which will indicate that B is properly switched in.

Officers in charge are enjoined to be very careful in seeing that all slides are properly “home” before commencing to switch in or out; also to use the telephone as directed, so that they may be satisfied that one part of the operation is completed before commencing another part.

Engineers must be especially careful in observing for which section the tablet is available, so as not to overcarry it or leave it at B when it should be taken to A or C.

23. TRANSFERENCE OF TABLETS.

(a) On tablet sections where a greater number of trains are run in one direction than in the other, causing the tablets to accumulate at one end of the section, the tablets must, when necessary, be transferred by the lineman from the tablet instrument at which the tablets accumulate to the instrument at the other end of the section.

Before taking out the tablets the lineman must advise the officer in charge at the other end of the section that he is about to do so by sending the prescribed signal. The number of tablets removed by the lineman must be recorded by him in the tablet register provided for that purpose, and the officer in charge must sign the entry and insert the time at which the transaction takes place; the lineman must retain in his possession all the tablets he has withdrawn until he has placed them in the instrument at the other end of the section.

(b) The officer in charge at the tablet station to which the tablets are transferred must, after having obtained the tablet from the engineer of the train and placed it in the instrument, immediately compare the number recorded in the lineman’s register with the number of tablets received, and when he has satisfied himself that the number is correct, and that all the tablets have been deposited in the proper instrument, he must sign the register and insert the time at which the transaction takes place.

When a tablet instrument contains less than five tablets (unless the officer in charge knows that they will be balanced by return traffic), the lineman must be advised, so that the necessary transfer may be made.

24. RECORDING TIME WHEN SIGNALS ARE FORWARDED AND RECEIVED.

(a) Except when special instructions are issued to the contrary, the time at which all signals are forwarded and received must be noted legibly with a pen in the train register book, and the officer in charge on duty must place his name immediately under the last entry by him at the expiration of his hours of duty.

(b) If an incorrect entry be made, a line must be drawn lightly through it, so that the original entry can be clearly seen.

(c) In recording the time at which signals are received and forwarded, fractional parts of a minute less than half a minute must not be counted, and half minutes and fractional parts more than half a minute must be reckoned as a minute. Thus, $15\frac{1}{2}$ minutes must be entered as 15 minutes only, and $15\frac{1}{2}$ minutes as 16 minutes.

25. BALLAST TRAINS.

(a) The engineer of a ballast train that has to do work on the line must be told, when receiving the train tablet, to which end of the section it is to be taken and at what time it is to be there, in order to clear the line for the next train.

(b) Should the guard of the ballast train require his train to return to the tablet station in the rear instead of going through to the tablet station in advance, he must obtain the permission of the officer in charge before the train enters the section. When the train has arrived back complete and the single line is again clear, the officer in charge must restore the tablet to the instrument and give the "Canceling" signal to the tablet station in advance.

(c) When a ballast train has to return to the tablet station in the rear, no shunting outside the home signal at that end of the station must be allowed until a man with hand and detonating signals has been sent out to protect such shunting.

(d) When a ballast train in possession of the tablet is at work on the line, it will not be necessary to send out flagmen to protect it.

26. CROSSING TRAINS OUT OF COURSE.

(a) If one of the trains which have to pass each other at a crossing place is late, the train which arrives first must be sent on to the next crossing station in advance, if it will be advantageous to do so. The officer in charge will be held responsible for deciding whether this shall be done or not, using his discretion according to the circumstances, and the officer in charge at the tablet station in advance must, when practicable, be informed of the course decided upon.

(b) Officers in charge must advise one another as to the running of trains, so that delays may be avoided or minimized so far as possible, and the crossing places altered with this end in view. Officers in charge will be held responsible for informing guards and engineers, when necessary, that the crossing station will be altered.

27. SECTION OBSTRUCTED.

(a) In the event of an engine becoming disabled between two tablet stations, the fireman must take the tablet to the station from which assistance is most likely to be obtained, and after informing the officer in charge and showing him the tablet, must personally hand it over to the engineer of the engine appointed to proceed to the assistance of the disabled engine and accompany him to the place where he left his own engine. The engineer of the disabled engine must not allow it to be removed until the assisting engine has arrived.

(b) The fireman of the disabled engine must not on any account allow the tablet to pass out of his possession until he hands it over to the engineer of the assisting engine, and the engineer of the assisting engine must not allow it to pass out of his possession until the disabled engine with the whole of the train (if any) is removed clear of the section, except when the line is obstructed and special arrangements are made for working in accordance with Regulation 27a.

(c) Should an officer in charge receive information from the fireman of a disabled train that a second train is required to enter the section to assist the disabled train, or should it be necessary for the breakdown van train to enter a section obstructed by accident or otherwise, the second train or the breakdown van train, as the case may be, may, after having been brought to a stand, and the engineer having been informed of the circumstances, be allowed to enter the section under the following arrangements, provided the engineer is in possession of the tablet:

(1) Should the assisting train or engine proceed from the tablet station in the rear of the obstruction, the officer in charge must inform the officer in charge at the tablet station in advance of the circumstances, and give the "Train departure" signal to the tablet station in advance, and, after it has been acknowledged, allow the second train or engine to proceed for the purpose of removing the obstruction. If the assisting train or engine is to proceed from the tablet station in advance, the officer in charge there must so advise the officer in charge at the tablet station in the rear. The officers in charge of both tablet stations must note the circumstances in their train register books. If the disabled train is taken through to the tablet station in advance, the "Train arrival" signal must not be given until both trains have arrived; but if the disabled train returns to the tablet station in the rear, the officer in charge there must, after he has assured himself that the section is clear, replace the tablet in the instrument, and give the "Canceling" signal to the tablet station in advance.

(2) The engineer of the assisting engine must run at reduced speed, and, after removing the disabled engine and the whole of the train (if the disabled engine was working a train) to the most convenient end of the section, must then hand over the tablet to the officer in charge.

(3) The first train passing through the section after the line is again clear must be stopped, and the engineer instructed to proceed cautiously through the section.

27a. WORKING TRAINS ON EACH SIDE OF AN OBSTRUCTION.

(a) Should an accident or obstruction occur, and the traffic likely to be stopped for a considerable time, special arrangements must be made for working the trains to and from the tablet station on each side of the point of obstruction.

The tablet must be retained to work trains between the point of obstruction and the tablet station from which the tablet was issued; and, on the other side, the traffic must be conducted by a pilot guard, in accordance with the following instructions:

The guard must put the engineer in charge of the point of obstruction, and after giving him a written order instructing him not to move his engine until he returns with the pilot guard, must go himself to the end of the section to which the train was proceeding and

arrange for three or more, as may be necessary, of the printed forms provided for the purpose of establishing "working by pilot guard during obstruction" (see Regulation 38 for specimen form) to be filled up. One of these must be delivered to the officer in charge of the tablet station where pilot working commences; the second must be retained by the pilot guard, and the third must be conveyed by the pilot guard with the relief train to the engineer in charge of the point of obstruction.

The pilot guard must wear a distinctive badge, which, until the regular badge can be obtained, must be a red flag tied round the left arm. So soon as he is satisfied that the arrangements are understood, trains may be allowed to go on the single lines under the control and by the permission of the pilot guard.

The engineer, when put in charge of the point of obstruction, must hand the tablet to the fireman and instruct him to take it back to the tablet station from which it was issued, to work trains between that station and the point of obstruction until the line is clear.

(b) The regulation badge is a red armlet with the words "Pilot guard" shown thereon in white letters.

(c) The line on each side of the obstruction must be protected in accordance with rule 98 in the Book of Rules and Regulations, and the guard and fireman will be held responsible for taking care that this is done until men are specially appointed to perform the duty.

(d) When the line is again clear no train must be allowed to pass the point where the obstruction existed without the tablet. The pilot guard must accompany the first train carrying the tablet to the tablet station to which the train was proceeding at the time of the accident. After the engineer has given up the tablet to the officer in charge and the pilotman has withdrawn his arrangements for pilot working, the traffic must again be conducted in accordance with these regulations.

(e) In no case of obstruction away from a tablet station must a tablet be restored to the instrument at either end of the section until the section is clear, except as laid down in Regulation 10.

28. TRAIN OR PORTION OF TRAIN LEFT ON SINGLE LINE.

(a) When a train or portion of a train is left upon the single line from accident or inability of the engine to take the whole forward, and it becomes necessary for the engine to return to the train or rear portion of the train from the tablet station in advance, the engineer must retain possession of the tablet until the whole of the train is removed from the section.

(b) After sunset, or in foggy weather, or during falling snow, a red light must be placed on the front vehicle of the rear portion by the man who divided the train.

(c) Should an engine assisting a train in the rear fail, the engineer of the train engine must send his fireman to the engineer of the assisting engine, and obtain from him an order in writing, indorsed by the guard of the train, stating that the engineer of the assisting engine is in possession of the train tablet, and authorizing the engineer of the train engine to return from the tablet station in advance for the remainder of the train. The train engine must then proceed to the tablet station in advance, and after disposing of the front portion of the train the engineer, after informing the officer in charge what he

is about to do, and showing him the written order, must return and remove the rear portion of the train and the disabled engine from the section.

(d) Should the assisting engine fail and the train proceed, owing to the engineer of the train engine not being aware of the failure of the assisting engine, the fireman of the assisting engine must act as directed in Regulation 27, and the disabled engine must not be moved until the relieving engine has arrived.

(e) If the train is assisted by a bank engine in the rear, and the train engine becomes disabled, so that it can not be moved forward, the bank engine must draw the train back to the tablet station, but the train tablet must not be delivered up to the officer in charge, but must be retained by the engineer of the bank engine, who will return to the assistance of the disabled train engine, acting in accordance with the provisions of Regulation 27.

29. BREAKDOWN VAN TRAINS AND ENGINES REPLACING OR ASSISTING DISABLED ENGINE.

(a) To prevent delays, breakdown van trains proceeding to clear the line must be signaled as express passenger trains.

(b) The same course must be adopted in the case of one engine proceeding to take the place of another that has failed, or of an engine, with or without a train, when sent forward to render assistance in case of failure or accident to preceding trains.

30. FOULING SINGLE LINES FOR SHUNTING PURPOSES.

(a) Permission must not be given for a train to approach from the opposite end of the section when there is any obstruction on the single line outside of the home signal.

(b) Except as shown below, a train must not be allowed to foul the single line for shunting purposes outside the home signal applicable to a train approaching from the opposite end of the section unless the engineer is in possession of the tablet for the section so fouled.

Any engineer may proceed with his engine out onto the single line at either end of any tablet station, so far as is necessary for shunting purposes at the station, without being in possession of a tablet, when the officer in charge has given him instructions to do so, but the officer in charge must not give such instructions (a) when permission has been given for a train or engine to enter the other end of the section, except arrangements are first made with the officer in charge at the other end of the section and the tablet has been restored to the instrument, nor (b) when a tablet or bank engine key has been issued to a train which has to return to the station from which the tablet or bank engine key was issued, nor (c) when pilot guard working is in force.

31. FAILURE OF TABLET APPARATUS.

(a) In the event of the failure of the tablet communication between any two tablet stations, steps must at once be taken to have the difficulty put right by the lineman; if his services are not immediately available, the working of the traffic over the section must be arranged for by means of a pilot guard, in accordance with Regulation 38.

(1) The pilot guard, in the event of there being a tablet out of the instrument at his end of the section, or if one can be withdrawn from the instrument at his end, when the tablet communication fails, must take possession of such tablet, and, if there is an engine available, he may use the engine for the purpose of conveying the forms to the tablet station at the other end of the section. He must keep the tablet in his possession until the tablet apparatus is again repaired and ready for use, and on arriving at the other end of the section he must, when delivering the form to the signalman there, show him the tablet, and also show it to the engineer of every train passing over the section during the time pilot working is in operation.

(2) Should the speaking telegraph or telephone, as well as the tablet communication, have failed and the men at each end of the section be unable to communicate with each other, the station masters or other responsible officials at both ends of the section must arrange for pilot working, and the pilot guards appointed at both ends must proceed along the railway in order that they may meet, and on doing so they must go together to the nearest or most convenient end of the section. The pilot guard who returns to the station from which he started must obtain the form which had been handed to the signalman there and return it and the other two forms in his possession to the station master or other official who filled them up, and the latter must at once cancel them by writing the word "canceled" across them. The other pilot guard must hand one of his forms to the officer in charge, as directed above, and act as pilot guard.

32. GENERAL INSTRUCTIONS REGARDING ELECTRIC TRAIN TABLET APPARATUS.

Immediately on block tablet instruments failing, station masters and officers in charge are to wire to the traffic superintendent or district traffic manager, the electrical engineer, and the electrical fitter for the district, and they must as speedily as possible render a report of the interruption, which is to be made out in duplicate, one being sent to the traffic superintendent or district traffic manager and one to the electrical engineer. Officers in charge, after having wired the electrical engineer and the electrical fitter of the failure of tablet instruments, must, if these should again right themselves, advise the electrical engineer and the electrical fitter, so that his time may not be wasted in traveling to the station where the failure existed when there is really no necessity for it. An examination of the instrument will, however, be made at the first opportunity, with a view of removing the cause of the temporary failure. In order to avoid both of the stations concerned in each failure wiring the particulars, the duty of doing so will devolve upon the officer who shall first require a tablet.

The cupboards containing tablet batteries must be sealed by the electrical engineer's inspectors, and under no circumstances must the seal be broken or the battery interfered with in any way by the officer in charge, unless a leakage appears outside the battery cupboard, in which case the seal may be broken and the leaking cell removed. Notice should be sent at once to the electrical engineer's inspector for the district.

33. FAILURE OF TRAIN TABLET INSTRUMENTS OWING TO EARTH CURRENTS.

Occasionally train tablet instruments are affected by the passage of electricity through the earth (called "earth currents"), these currents being at times sufficiently strong to move the needles and disks of the various instruments from one position to another, and to ring the bells. When this occurs to such an extent as to make the tablet working unreliable the tablet instrument must be looked upon as having failed, and the regulations laid down for working of the trains in the event of failure of the tablet instruments must be carried out until the instruments are again in a satisfactory condition. The lineman must be at once advised, and the circumstances of the case reported to the traffic superintendent or district traffic manager.

34. CONTROLLING SIDINGS BY MEANS OF THE TABLET.

(a) Points giving communication between the sidings and the main line, controlled by the tablet can not be opened without the tablet for that section of the line where the siding is situated, and the tablet can not be removed until the points have been placed in the proper position for trains to pass upon the main line, and securely locked so as to prevent vehicles passing from the sidings onto the main line.

(b) On arriving at a siding the points of which are controlled by tablet, the engineer must hand the tablet to the guard or man in charge of the siding to enable the points to be locked. When the necessary shunting has been completed, and the points have been placed in the proper position for trains to pass upon the main line, the guard or man in charge of the siding must return the tablet to the engineer, and the latter must not proceed on his journey until he has obtained possession of it.

(c) Where there is an intermediate station or siding between tablet stations which requires to be worked in such a manner as to necessitate the engine working it returning with the tablet to the station at which it was obtained, and there delivering up the tablet, the following instructions must be strictly adhered to:

The train or engine requiring to pass to the station or siding and back must be signaled as "Train entering section to return to starting point." After it has returned from the siding complete and delivered up the tablet, the tablet must at once be deposited in the apparatus and the "Canceling departure," or "Line clear" signal given. These signals must all be recorded in the train register books at each end. The station at the other end of the section must be kept informed on the speaking instrument of the circumstances.

35. MASTER TABLETS FOR SIDING TABLET LOCKS.

Master tablets will be issued to signal inspectors or fitters as required to enable them to clean and examine the interlocking apparatus and tablet locks at by-sidings, and the following instructions must be carefully observed:

The names of persons authorized to be in possession of these master tablets will be issued in notices from time to time, and station masters and officers in charge must exercise close supervision and see that no

other persons are allowed possession of them so far as it comes to their knowledge. The persons above mentioned must not allow these master tablets to pass out of their possession on any account, unless by a written order from the signal engineer, and they will each be held personally responsible for their safe custody.

In all cases when it is practicable the machines and points at by-sidings which are interlocked should be examined when the sidings are being shunted by goods trains. In no case must the inspector or fitter open the points at by-sidings unless accompanied by some authorized person, so that two men will always be in attendance when the points are being worked for testing machine. Any violation of this instruction will be severely dealt with.

When it is required to examine a machine at any by-siding between two tablet stations, and when such can not be done while the siding is being shunted by a train, the inspector or fitter, before proceeding from the tablet station at either end, must inform the station master or officer in charge at that station of his intention to examine the frames and use his master tablet, for which information the inspector or fitter must receive a written acknowledgment in his report book. The officer in charge, on receiving this information, must immediately inform the officer in charge at the other end of the section; and before a train is allowed to depart from either end the engineer must be informed of the circumstances on the form (Miscellaneous 31) shown below.

When the examination is completed the inspector or fitter, on arrival at either end, must inform the officer in charge, and the officer in charge must then inform the station at the other end of the section.

During the repairing or cleaning of the frames at any by-siding the facing-point bolt must not be withdrawn, nor the facing points altered to lie for the siding and left in that position unless the fitter or his assistant is in charge of the levers. Special care must be taken at places where, owing to the nature of the country, approaching trains can not be seen at any considerable distance. The facing points of any by-siding must not be moved within half an hour of the time when any express, mail, or passenger train is due.

INTERLOCKING FITTER WORKING AT BY-SIDINGS (MISCELLANEOUS 31).

.....,
....., Station.

TO THE ENGINEER OF No. TRAIN:

The interlocking fitter is on the section examining the machines at sidings, for which purpose he may use the facing points; you must therefore approach such sidings with care, and have your train under such control so as to be able to stop short of the facing points at such sidings should any hand signals be given for that purpose.

(Signed), Officer in Charge.
(Date) (Time.)

No.

Received ticket, numbered as above, stating that the interlocking fitter is examining the machines at, which place must be approached cautiously.

(Date)
....., Engineer,
..... Train.

36. TABLETS LOST OR DAMAGED.

If, in the event of a tablet being lost and pilot guard working being established, the tablet is again found, it must be locked up in the safe or cupboard till pilot guard working has been canceled.

When the tablet can not be found after diligent search, and is regarded as absolutely lost, a certificate to this effect must be given to the traffic superintendent or district traffic manager by the traffic inspector and the representative of the electrical engineer. On receipt of this certificate a circular will be issued giving full particulars of the missing tablet and canceling it. A copy of such circular must be affixed to the tablet instruments for the section. When this has been done the electrical engineer will authorize the tablet instruments to be put into working order, and tablet working will again be brought into operation, but the missing tablet, if it should afterwards be found, must on no account be replaced.

When from any cause the tablets are broken in pieces while out of the instruments, the parts must not be replaced in the instruments, but pilot guard working must be established until such time as arrangements are made for the broken tablet to be replaced or repaired and the instruments put into working order. The pieces of the damaged tablet, tied together, may be used for one journey only, to establish pilot guard working, if time can thereby be saved. When tablets are only slightly damaged and there is no doubt that they can be safely placed in the instruments again and taken out when required, they may be replaced, but in doing so great judgment must be exercised. When a tablet has been damaged so that it can not be repaired on the spot and replaced in the instrument, the electrical fitter must so inform the officer in charge, and, at the same time, the damaged tablet form must be filled out. The officer in charge, or the pilot guard, if the latter has been appointed, will then allow the fitter to place the electric apparatus in phase, after which the officer in charge or the pilot guard, as the case may be, will countersign the form, and pilot guard working, if instituted, may then be disestablished according to instructions in Regulation 38.

Before a damaged tablet is taken possession of by the fitter he must give the officer in charge a receipt for it, stating the number and section, and, after it has been repaired or renewed and placed in the proper instrument in the presence of the officer in charge, the fitter must collect the receipt form given to the officer in charge.

DAMAGED TABLET FORM (MISCELLANEOUS 32).

....., 19..

TO THE OFFICER IN CHARGE

Electric tablet No., for the section, and, can not be placed in the instrument, owing to damage, and it is necessary for the apparatus to be unlocked and put in phase.

....., Fitter.

The instrument has been put in phase in my presence.

....., Officer in Charge.

....., Pilot Guard.

(This form to be sent to the electrical engineer by the officer in charge.)

37. CUSTODY OF TRAIN TABLETS WHEN OUT OF USE.

(a) When stations are temporarily closed as tablet stations the tablets must be removed from the instrument by the electrical engineer's inspector and handed to the traffic inspector present, who must secure them in a lock-up bag and personally hand them to the traffic superintendent or district traffic manager.

(b) In the event of the opening of a new tablet station being necessary, or of a section being altered in such a way that other engraved tablets are required, after the necessary instructions have been issued by the traffic superintendent or district traffic manager bringing such new or altered sections into operation, the electrical engineer's inspector, or his assistant, will be responsible for placing the tablets in the instruments in the presence of the traffic inspector, and both officers must sign a certificate to that effect and send same to the traffic superintendent or district traffic manager.

38. METHOD OF ESTABLISHING PILOT GUARD WORKING.

In the event of the electric tablet communication being destroyed, pilot guard working must at once be arranged for by the officer in charge in accordance with the following instructions:

A competent person must be appointed to act as pilot guard, and he must wear a distinctive badge, which, until the regular badge can be obtained must be a red flag tied around his left arm above the elbow. The regulation badge is a red armlet with "Pilot guard" in white letters upon it.

SPECIAL FORM TO BE USED FOR PILOT GUARD WORKING DURING OBSTRUCTION OR SUSPENSION OF THE TABLET (MISCELLANEOUS 33).

..... Station,
....., 19..

To

The^a all traffic will pass between and in charge of, who will act as pilot guard, and no engine or train is to be allowed to leave or unless he is present and gives permission.

This order is to remain in force until withdrawn by the pilot guard presenting my written authority.

(Signed)

Noted by ^b at

Noted by ^b at

Noted by ^b, Pilot Guard.

^a Here insert "Line being blocked at" or "The tablet for the section and having been" or "Instruments being out of order."

^b These signatures must be made on the copy held by the pilot guard.

The above form must be filled up and used when a line is obstructed, or during a suspension of the tablet in consequence of its having been damaged or mislaid, or when the instruments are out of order. Six of these forms must be kept in a convenient place at each tablet station, so as to be available at any moment.

Before pilot guard working is commenced, the pilot guard's copy of this form must be signed by the officer in charge at each tablet station (for exceptions see Regulations 27*a*, 31, and 36), and the pilot guard must see that each of the men signing the form retains a copy for himself. If an intermediate place (not a station) is used for transferring the traffic from one side of the obstruction to the other, the

form must be addressed and given to the person in charge of the obstructed point. In the event of a stationmaster himself acting as pilot guard, he must address and give the form to the person he leaves in charge of the station.

Officers in charge, where pilot guard working is in force, will be held responsible that all concerned at their stations are immediately made acquainted with the circumstances and are instructed in the necessary duties.

Signatures must not be obtained by telegraph; there must be personal delivery of the forms by the pilot guard.

In order to secure uniformity as to how officers in charge must act when establishing pilot guard working, the following will serve as an example (the officer in charge is to be understood to mean the stationmaster, if available; if not, the person he leaves in charge of the station. Should such officer not hold a certificate, he must consult the signalman as to the regulations on the subject):

Let A and B represent two tablet stations, between which a failure has taken place. If the first train expected to run is from B it will be the duty of the officer in charge at A to initiate pilot guard working by filling up and signing three forms. These he will hand to the pilot guard, who, after signing all three forms, will hand one form to the man in charge of the signals at A. The signalman at A must sign his own form and the one held by the pilot guard. The pilot guard will then proceed to B by the most expeditious way possible, but must not, unless there is a tablet out of the instrument and in his possession, or unless one can be withdrawn from the instrument at his end of the section, use an engine or any railway vehicle other than a plate-layer's trolley, and hand one form to B (which B must sign), and also obtain B's signature to his own form. The signatures on the three forms will be: Two on the form held by A, his own and the pilot guard's; two on the form held by B, his own and the pilot guard's, and three on the form held by the pilot guard, A's, B's, and his own. When the above arrangements are complete and the pilot guard is satisfied that they are understood, trains or engines may then be allowed to go on to the single line under his control and permission.

He will, when practicable, accompany every train or engine, but when it is necessary to start two or more trains or engines from one end of the section under his control before a train has to be started from the other end he must furnish the engineer in charge of each train not accompanied by himself with one of the printed pilot guard's tickets (Miscellaneous 29), where such tickets are in use (see pilot guard's ticket, page 30), properly filled and signed, must personally start such trains and himself accompany the last train. The tickets granted in these cases will apply only to the single journey to the other end of the section, where they must be immediately given up to the officer in charge, who must at once cancel them by writing the word "canceled" across the face of the ticket, and after ordinary working has been resumed they must be forwarded to the traffic superintendent or district traffic manager with a report giving full particulars. After issuing a ticket or starting a train which he does not accompany the pilot guard must not permit another train to enter the section until he has received intimation by telegraph or telephone message from the other end of the section that the previous train has arrived with the ticket, where provided.

If no telegraphic communication exists, a second train or engine must not be allowed to follow until after the expiration of not less than five minutes, nor even then until the full running time of the section has elapsed, should such running time exceed five minutes. The engineer and guard, if unaccompanied by the pilot guard, must be specially cautioned by the latter before being allowed to start.

When the train or engine, unaccompanied by the pilot guard, arrives complete inside the "home signal" of the post in advance, the signalman there will immediately send a telegraphic message to the pilot guard advising him of its arrival. Before starting any train the pilot guard must ascertain from the signalman that all is right, and he may then verbally instruct the engineer to proceed, riding upon the engine when accompanying the train.

The pilot guard working does not affect the fixed signals, which are to be worked in the usual manner. Signalmen must not on any account take off these signals or allow a train to pass into any section that is being worked by pilot guard, except under the pilot guard's instructions, and when he is present.

In the event of a train accompanied by a pilot guard becoming disabled, the guard must take the necessary steps for the protection of his train, and communicate with the pilot guard as soon as possible. When a portion of a train is left upon a section of the line worked by pilot guard, from inability of the engine to take the whole forward, and the pilot guard is not accompanying the train, the engineer must not return for the rear portion unless he holds the written instructions from the guard authorizing him to do so, and the guard must continue to protect his train in the rear and prevent a following train from pushing it ahead. If the pilot guard be with the train and accompanies the engine with the first portion, the engineer may return without written instructions from the guard, and the guard must protect his train in the front, as shown in clause *b* of Regulation 28.

While pilot guard working is in force no train or engine is to be allowed on the single line outside the "home signal" for any purposes, except the pilot guard be present and personally starts such train or engine; and in all cases the signalman must stop any train or engine, and not allow it to proceed until he has made himself perfectly satisfied that the pilot guard is accompanying it or has given permission for it to start; in the case of an engine unaccompanied by the pilot guard returning for the rear portion of a train, the signalman must stop it and not allow it to proceed until he has seen that the engineer is in possession of written instructions from the guard in charge of the train authorizing him to do so.

If an electric tablet instrument fails, and it is found necessary to work the section by pilot guard, any by-siding in such section must be worked only by trains accompanied by the pilot guard, and in such cases the signal adjuster must also accompany the train and open the locks at the siding with the "master key" by direction of the pilot guard. After the shunting has been completed the signal adjuster will be held personally responsible for the points being properly locked for the main line.

Should it become necessary at any time for the pilot guard to be relieved, it must be clearly understood that this can only be arranged for by the officer in charge who arranged the pilot working. On the first pilot guard's form being collected by the officer in charge he will

make out three new forms in the name of the second pilot guard and accompany him on his first journey, collecting the old forms and seeing that the new forms are properly signed, and that all concerned know that the change has been made. After one pilot guard has been relieved by another, the pilot guard who has been relieved must not ride upon any engine until he resumes duty as pilot guard.

Should an officer in charge be relieved during the time pilot guard working is in operation, the man coming on duty must be made acquainted by the man going off duty as to the arrangements in force and with the person acting as pilot guard. The man coming on duty must, before taking charge, countersign the form held by the pilot guard.

When the tablet apparatus is again repaired and ready for use, pilot working must not be canceled until the electrical fitter has counted the tablets in the instruments at each end of the section, and has entered the total number in the respective train register books, stating that the proper numbers are in the instruments. This information is to be written under the last train entry in train registry books and signed by the electrical fitter.

After the instruments have again been put in working order, no tablet must be taken from the instrument at A or B until pilot guard arrangements have been canceled, as follows: When the officer in charge, who established pilot guard working, has been informed by the officer representing the electrical department that the instruments are again in working order, he will write out two forms, as follows:

PILOT GUARD WORKING CANCELLATION FORM (MISCELLANEOUS 34).

..... Station,
....., 19..

To

Pilot guard arrangements made by me at on for the section and are hereby canceled, and ordinary working will now be resumed.

(Signed)

These two cancellation forms must be handed to the pilot guard when at A, who will hand one of them to the person in charge of the signals at A and collect the pilot guard form, and on arriving at B he will also give the person in charge the second cancellation order and collect the pilot guard form. When the above has been done, B will ask A for a tablet, and the train will proceed with the pilot guard and tablet, and on the pilot guard arriving at A with a tablet, the ordinary working will be resumed.

The cancellation and pilot guard forms, together with reports on the subject, must be waybilled to the traffic superintendent or district traffic manager.

In establishing pilot guard working it must be understood that, should the instruments be put into working order before the arrival of the pilot guard at B, the pilot guard arrangements must still be completed, and only canceled in the ordinary way. When once the pilot guard has left A, that station must consider that pilot guard working is in force. Should the person who arranges pilot guard working also

act as pilot guard, and the instruments be put into working order while at B, it will be permissible for him to cancel pilot guard arrangements before leaving B, so that on arrival at A a tablet can be got to open the section from A to B.

It must be clearly understood that no tablet is to be taken out of the instrument at either end of the section until pilot guard working has been canceled at both ends, and the first tablet taken out, after the instruments have been repaired, must be taken from the end where the pilot guard is, as he must go with the first train carrying the tablet.

In the case of failure of the tablet instruments and pilot guard working having been established, the instruments are only to be tested by the inspecting officer or electrical fitter when the pilot guard is present.

PILOT GUARD'S TICKET (MISCELLANEOUS 29).

Ticket No.

Train No. *Line or Branch.*

TO THE GUARD AND ENGINEER:

You are authorized to proceed from to, pilot guard following.

(*Date*) 190 *Pilot Guard.*

(Back of ticket.)

This ticket must be given up by the engineer, immediately on arrival, to the person in charge of the station to which he is authorized to proceed; the ticket to be afterwards canceled and dealt with as the latter may be instructed by the traffic superintendent or district traffic manager.

RULES FOR THE GUIDANCE OF ELECTRICAL ENGINEER'S STAFF WHEN ATTENDING TRAIN TABLET INSTRUMENTS.

(a) When examining or cleaning instruments which are in use the inspecting officer must on no account leave the instruments open or the tablets out, even for a moment, but must leave all in order, although he may be absent only for a few minutes and may have to open the instruments again to complete his work; and before starting a new section or reopening an old one the inspecting officer must see that the proper number of tablets are in the instruments.

(b) The inspecting officer will always give the "Testing" signal before manipulating the instruments, and he is on no account to issue or return, or permit the officer in charge to issue or return, a tablet for working purposes until the "Testing" signal has been given and acknowledged. No officer of the electrical engineer's staff is to issue or return a tablet for traffic working.

(c) If a tablet be brought in on the arrival of a train by the officer in charge and the instrument is not ready to receive it, the inspecting officer will not take possession of the tablet, but will put the instrument into order to receive it from the officer in charge as quickly as possible.

(d) In case tablets are sent to or from the workshops or the respective stations, they must invariably be securely packed, so as to be completely covered, and booked as parcels of value. When personally conveying tablets for the purpose of balancing, the inspecting officer must on no account allow them to go out of his sight.

CONCLUSION.

There has been at times since the introduction of this tablet system a little trouble experienced by engineers in giving and taking the tablet at stations which are passed at high speed, and the railway department has been experimenting with automatic tablet exchangers. The experiments have been conducted on the Canterbury Plain and in other parts of the colony where trains usually pass stations very rapidly. Three different designs have been tried and all have proved successful. So far, however, no particular design has been selected for adoption, although it seems probable that one soon will be. It will be an innovation which will be hailed with delight by all engineers, because, under the present system—the tablet being snatched by hand—arms and fingers not only suffer sometimes, but there is always the chance of missing the exchange. Another railway innovation, known as the "Pile National Electric Headlight," has been fitted to a few locomotives on the Dunedin-Oamaru section in the South Island. It is an arc light of over 2,000 candlepower, and its power can be best judged by the fact that on a straight line the light illuminates a mile of track. A little dynamo which supplies the electricity is situated in the space between the lamp and the funnel and is worked by a small steam turbine.

F. DILLINGHAM, *Consul-General.*

AUCKLAND, NEW ZEALAND, *February 7, 1905.*

AMERICAN STOVES AND HEATERS IN CHINA.

(From United States Consul Anderson, Hangchau, China.)

There is a greater demand for stoves of American make in some portions of China than is generally known. Most of the heaters in use among foreigners are American stoves brought to Chinese ports from the United States, a single New York firm seemingly having most of the business.

The stoves used in the central latitudes of China have little in common with those generally in use by the people of the United States. They are small, consume little fuel, comparatively speaking, and give off little heat. The Chinese, as a rule, do not know what winter comfort with a stove really is. For ages they have huddled over small brass foot or hand stoves or brass braziers filled with glowing charcoal, and what they have lacked in artificial heat they have made up as best they could by extraordinary amounts of clothing. No public building in this part of China has a fire in it in winter. The school-rooms are without artificial heat, the churches and temples never

knew a stove, and most of the Chinese people are so dressed that they would be uncomfortable if there was any artificial heat. As a result the missionaries have introduced heaters in few, if any, of their schools, and in the course of time they are likely to so modify their way of living that they will use few stoves and little fuel themselves.

At the same time the use of stoves and artificial heat among the well-to-do Chinese is increasing, and it is only a matter of a comparatively short time until there will be an immense demand for American heating apparatus if the present lead of the United States in this line of goods is maintained. How little attention is paid this field by some American manufacturers, however, is apparent from the fact that three families within my knowledge have sent to the United States for direct shipment of three stoves known as "air-tight heaters"—modern wood-consuming stoves, which are very popular—when they should have been able to purchase the same from "stock on hand" in some sample warehouse in the Empire. With the increased supply of fuel, and a lowering in its price, which is soon to follow the opening of more of China's coal fields, there ought to be a corresponding widening of the field for American stoves.

American cooking stoves and ranges are popular, although there are not many real "ranges" in China. Chinese cooks, when cooking for the Chinese, cling to the old Chinese range of brick and mortar with fixed cooking pans of iron or brass. Foreign-trained cooks appreciate foreign makes of stoves and will take them if they can get them. The prices charged for American stoves in China run very high, much higher than the cost at home would seem to justify. In all goods of this class sold in China the profit of the retailer is far beyond what would be thought of in the United States.

The lowering of the cost of American stoves in China, by the reduction of freight rates from the Central States to the coast and thence across the Pacific, would undoubtedly immediately result in largely increased sales.

GEORGE E. ANDERSON, *Consul*.

HANGCHAU, CHINA, *January 30, 1905.*

POPULATION OF JAPAN.

The following clipping from the Japan Chronicle, an English journal published at Kobe, Japan, February 15, 1905, was transmitted the same day by United States Vice-Consul Hunter Sharp, Kobe, Japan:

In view of the fact that the increase of the population in Japan has been the subject of much discussion, it is interesting to learn the actual rate at which the increase is proceeding. The following figures are based on the official census:

Population of Japan, by sex, 1893 to 1903.

Year.	Male.	Female.	Total.
1893.....	20,906,465	20,481,848	41,388,313
1894.....	21,122,899	20,690,316	41,813,215
1895.....	21,345,750	20,924,870	42,270,620
1896.....	21,561,023	21,147,241	42,708,264
1897.....	21,823,651	21,405,212	43,228,863
1898.....	22,074,242	21,689,613	43,763,855
1899.....	22,330,112	21,930,640	44,260,752
1900.....	22,631,177	22,202,821	44,833,998
1901.....	22,948,043	22,498,619	45,446,662
1902.....	23,233,676	22,788,833	46,022,509
1903.....	23,605,571	23,131,270	46,736,841

As will be seen from the foregoing, the rate of increase, which was 0.73 per 100 of the population in 1893, had increased to 1.54 in 1903. The average yearly increase for these years was 480,000. In the above list the population of Formosa is not included. This was as follows:

Population of Formosa, 1897 to 1902.

Year.	Japanese.	Formosans.
1897.....	16,321	2,781,222
1898.....	25,585	2,664,311
1899.....	33,120	2,755,041
1900.....	37,945	2,802,919
1901.....	42,124	2,882,948
1902.....	47,077	2,963,064

It will be seen that Japan's population, when that of Formosa is added, was close upon 50,000,000 at the end of 1903. The number of births and deaths and the ratio of marriages during the past decade is shown in the following table:

Number of births and deaths and ratio of marriages in Japan, 1893 to 1902.

Year.	Births.	Deaths.	Marriages per 1,000.
1893.....	1,178,428	937,644	8.66
1894.....	1,208,983	840,768	8.64
1895.....	1,246,425	852,422	8.65
1896.....	1,282,177	912,822	11.75
1897.....	1,334,125	876,837	8.45
1898.....	1,369,638	894,624	10.77
1899.....	1,388,185	934,566	6.72
1900.....	1,422,041	914,549	7.70
1901.....	1,487,477	922,549	8.33
1902.....	1,493,599	952,252	8.76
Average.....	1,341,096	903,894	8.71

The average number of births during the ten years mentioned was in round numbers 1,340,000, and deaths 900,000, showing a yearly increase of 440,000 in the population. The average number of marriages was 380,000 a year, or 8.71 per 1,000. During the same period the number of divorces averaged 9,400 a year, or 2.13 per 1,000.

Next it is of interest to consider the different parts of the country, as this gives an insight into the economical and commercial condition

of the various districts. The following table shows the density of population per square ri (5.9552 square miles) in the various districts:

Density of population of Japan per square ri (5.9552 square miles), by districts, in 1882, 1892, 1898, and 1903.

District.	1882.	1892.	1898.	1903.
Kinai	5,381	5,664	6,095	6,618
Tokaido	3,363	3,545	3,768	4,063
Tosando	1,537	1,627	1,731	1,851
O-u	990	1,069	1,137	1,223
Hokurikudo	2,334	2,426	2,471	2,561
San-in-do	1,620	1,668	1,710	1,777
Sanyodo	2,540	2,634	2,762	2,899
Nankaido	2,241	2,321	2,418	2,547
Saikaido	2,133	2,231	2,401	2,563
Hokkaido	39	56	100	138
Formosa			1,171	1,246

The Kinai district includes Osaka, Kyoto, and Kobe, and the Tokaido district embraces Tokyo.

As will be seen from the above, Kinai is the most densely populated district in Japan, with 6,618 persons within the square ri (5.9552 square miles); the Tokaido being second, with 4,063; the Sanyodo third, with 2,899, and so on. The Hokkaido district is still thinly peopled, with only 138, though its population has more than trebly increased during the past twenty years. The next point worth consideration is the distribution of population in the urban and suburban districts, which is shown in the following table:

Distribution of urban and suburban population of Japan, 1886, 1893, 1897, and 1903.

Year.	Urban population.	Percentage of whole.	Suburban population.	Percentage of whole.
1886	4,990,960	12.5	34,168,731	87.5
1893	6,522,994	15.7	34,866,819	84.3
1897	7,384,160	17.0	35,844,703	83.0
1903	9,348,616	20.0	37,384,226	80.0
Increase	4,448,656	7.5	3,215,494	a 7.6

a Denotes decrease.

In the foregoing, a city or town possessing a population of more than 10,000 is included in the urban districts and the rest in the suburban districts. The final table shows in an unmistakable manner the gradual concentration of the suburban population in the cities. During the seventeen years under review the urban population has increased by 4,448,656 and the suburban by 3,215,494, but the ratio is that whereas the former shows an increase of $7\frac{1}{2}$ per cent the latter shows a diminution of a similar percentage.

FIGHTING MOSQUITOES IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

Professor Fluegge, president of the hygienic institute at Breslau, has sent the following circular to the owners and managers of dwellings in one of the districts of that city:

The common council has resolved to fight in a systematic manner the mosquito plague, which prevails every year, and the plan for the purpose has been worked out at this institute. It is necessary in the first place to destroy, before warm weather sets in, the mosquitoes which pass the winter in the cellars and basements of houses. These cellar and basement mosquitoes will be destroyed by municipal experts without inconvenience to the people and without injury to property. In order to make it possible to carry out the plan successfully, we respectfully request the admittance of the disinfectors to the cellars of houses and permission for them to take the steps necessary to kill the mosquitoes. The disinfectors will have identification cards.

According to the Silesian Gazette, the plan for fighting the mosquito plague is to be worked out in two directions. The hibernating mosquitoes, which are almost always found in the cellars of houses adjoining unoccupied territory, parks, gardens, etc., must be killed. These are found in somewhat damp cellars, facing north, and are recognizable with difficulty by those not experts, but cover the ceilings by thousands. In the spring they leave and lay their eggs in water, the larvæ producing mosquitoes within three to four weeks. A supplemental effort will be made to destroy the larvæ, which are found principally in stagnant, shallow pools. These must be either filled in or treated with malachite green or other larvæ-destroying substances.

For the present this process will only be employed in that part of the city which suffers most from the mosquito plague. If it proves successful it will be extended next year over the whole city. Fighting mosquitoes will be carried on in a systematic manner on a scientific basis. Summer resorts and watering places, especially, should imitate the example set by Breslau.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 28, 1905.*

BRITISH PREFERENTIAL TARIFFS.

Under date of February 20, 1905, United States Consul Marshal Halstead, Birmingham, England, transmits the following extract from the Daily Post of that city, giving a summarization of the speech of the Earl of Minto, late Governor-General for Canada, at a dinner given in his honor by the British Empire League, at the Hotel Cecil, on the evening of February 17, 1905:

EARL MINTO'S SPEECH.

He went to Canada in 1898, and there witnessed the great development that had taken place in the material resources of the Dominion. Above all was the wonderful realization of the enormous wheat-growing capacity of the Canadian Northwest Provinces. In Manitoba and three provisional territories there were 171,000,000 acres suitable for cultivation, while in Alaska and Mackenzie there were 155,000,000 and 340,000,000 acres of land where considerable quantities of wheat had already been grown. Supposing that the 171,000,000 acres were under wheat, the total wheat crop would be 855,000,000 bushels annually, making Canada much the largest wheat-producing country in the world. The United States produces only about 638,000,000 bushels.

This had naturally caused great self-confidence and great pride among the Canadian people in their country, for they felt that they were going to become a power in the nations of the world—a feeling that they were going to be very strong, and there was a growing and very intense feeling of Canadian nationality. But down in the bottom of every Canadian heart was the relation which the people held to the history of Great Britain, their pride in sharing that history, and their intense love for the flag.

There had been two momentous circumstances in our history—the war in South Africa and Mr. Chamberlain's speeches on preferential tariffs. The assistance given to us by Canada in the war was entirely sentimental, a magnificent demonstration to the nations of the world of the value of imperial kinship, but the long stress of war sufferings and losses had without doubt brought home the realization of the fact to the scattered possessions of our kin, that it was necessary to consider the possibility of accepting the expenditure and responsibility of some common defensive action.

As regards Mr. Chamberlain's speeches, they all knew that the whole question of preferential tariffs was bristling with difficulties, but at the same time he thought he was justified, after having been six years in the Dominion and mingling with everybody he could, in endeavoring to express the sentiments and public feeling of the people of Canada. Many conclusions had been drawn which were not fair to the people of Canada. It was said that Canada was lukewarm and that the question of preferential treatment with Great Britain had played no part in the general election in Canada. There was also a general tendency to ignore the position of Canada in relation to the United States. All his experience led him to the conclusion that the leading statesmen of both parties in Canada were absolutely at one in favor of preferential trade with Great Britain. The press were also on the same side, and they lamented the want of initiative in the old country, stating that if Great Britain did not appreciate the opportunities offered she could not blame Canada for taking advantage of the opportunities afforded by America. If we looked to the resolutions passed by the chambers of commerce and other trade associations in Canada we would find the same feeling in favor of preferential relations, and he preferred to take this evidence than to believe in the opinions of visitors, however distinguished, formed after a stay of four or five days in the Dominion.

He had tried to picture the great growth of the country and give those present the true state of public opinion in Canada as regarded the relations with the motherland, but there was something very much greater than this. There was the effect that an apparent want of sympathy with our kinsmen beyond the seas might produce; there was the effect of the appearance of a cynical disbelief in their good will; there was the effect which any apparent coolness toward their offers might have. The inevitable effect would be to produce estrangement in our trade relations, loss in our imperial trade, and loss of touch with our blood relations beyond the seas, the value of which it was impossible to overestimate. The Empire was in a state of evolution. It was impossible not to realize that there was a great future spreading out before us, full of immense possibilities which it was impossible for us to deal with on lines that were out of date.

GERMAN COMMERCIAL AND TECHNICAL EXPERTS.

(From United States Consul-General Guenther, Frankfort, Germany.)

The chamber of commerce for the Sonneberg district, in its last annual report, devotes a chapter to the subject of commercial and technical experts as attachés to consulates. It considers German chambers of commerce in foreign countries promotive of Germany's foreign and home interests, differing in this opinion from the imperial chancellor, and approves of the Government's method of attaching to important consulates commercial and technical experts, who are to closely study the economic and trade conditions of the countries to which they are sent and report thereon to the home Government, which will communicate the information to German promoters, manufacturers, exporters, etc. The report says:

It is urgently requested that this institution (of experts as attachés) be so formed as to fully respond to the requirements of German trade interests in the markets of the world and to satisfy the constantly increasing demand for information. For the accomplishment of this it is necessary, in the first place, to appoint such experts at all foreign points of commercial importance to Germany, more particularly at its principal consulates. These attachés must keep in constant touch with manufacturing and commercial circles of Germany which trade with the respective foreign countries. It is also very desirable that these expert attachés from time to time visit in person the industrial sections of the home country and discuss all matters pertaining to mutual trade relations between Germany and foreign countries. It gives us satisfaction to state that the Imperial Government has expressed its readiness to comply with this wish, and already the German commercial attaché for Argentina has visited Sonneberg and consulted with exporting circles interested in Argentine trade. We also value the point advanced by other parties that these expert attachés should not too frequently change their posts, because a continued stay will enable

them to become fully conversant with the economic conditions of their spheres of activity, whereby they will become more proficient and their services more beneficial.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *February 24, 1905.*

TRADE OF MANNHEIM, GERMANY.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Mannheim, the largest city in the Grand Duchy of Baden, is one of the principal commercial centers of Germany, and, being at the head of navigation of the river Rhine, is an entrepôt for merchandise from all parts of the globe and for heavy freights in domestic goods to supply southwestern Germany and Switzerland.

The annual report of the chamber of commerce of the city and district of Mannheim fills 512 printed pages, and gives much information concerning the business of that section in 1904. This chamber of commerce dates back to August 23, 1728, when the "Elector Carl Philip conferred guild privileges and articles (of corporation) on the business people and traders of his capital and residential city, Mannheim."

The following are extracts from the report:

That the economic condition of Germany is better in 1904 than in 1903 is evidenced by the considerable increase in her foreign trade, in the receipts from railroad traffic, the stamp duties on commercial paper, the operations of the Imperial National Bank, the employment of labor as shown by the greater contributions to the "invalid-insurance fund for employees," and by the decrease in emigration of German subjects. This pleasant picture has its shady side in the rather slow progress and the actually diminished production of German pig iron and coal in 1904.

The movement for commercial concentration became very prominent during the year and strikes one as possessing elementary force. The number of combines is continually increasing and no one can gauge the extent of the development, nor can the necessity of considering effects be avoided. Whether the movement will prove of general benefit to commerce and industry remains an open question, but there is imminent danger that general interests will have to give way to the interests of a few, and that the ability and powers of the individual will have no incentive to attain the highest level. In many cases it will be impossible for the gifted individual to rise or thrive.

During 1904 Mannheim's population and wealth increased, while the number of failures and bankruptcy cases diminished.

One-fifth of Germany's total importation of wheat passes the customs at Mannheim. A notable occurrence was the large shipment of grain, especially corn, to Austria, caused by the extreme drought prevailing there. The demand for canned vegetables (asparagus, etc.) and fruits was lively and many orders could not be filled. The decline in the price of sugar increased the sales of candy and chocolate manu-

factures. The manufacture of cigars was more prosperous than before but is affected by the growing popularity of cigarettes. The wholesale trade in sausage casings suffered from rigorous execution of the meat-inspection law. The demand for margarine was good, but retail sales were frequently impeded by the action of the police authorities.

The export trade in plate glass has increased. The wholesale coal trade has lost its independence; the business is altogether in the control of the Rhenish Coal and Shipping Company, a protégé of the coal trust. The wholesale trade in iron and steel is also unfavorably affected by the stringent rules concerning purchases and sales enforced upon the trade by the steel trust.

Business was insufficient and prices unprofitable, owing to sharp competition in the building of steamships, freight barges, motor boats, steam dredges, steam boilers, cranes, engines, machinery, etc. The iron industries attribute the impairment of their competing ability in foreign markets to the cheaper prices made to foreign manufacturers by German iron and steel works. The gas and benzine motor factories were well employed. Owing to continued importations from the United States the price of wrought-iron tubing has suffered a serious decline. Efforts will be made by the pipe trust to effect an agreement with the American and English manufacturers to stop their competition in the German markets. The manufacturers of automobiles were, and still are, selling on orders for several months ahead.

The demand was satisfactory for hydraulic machines and machinery for brewing, making rubber goods, cold-storage plants, filter presses, pumps, water meters, superheated steam plants, apparatus for chemical industries and for mineral water, and machines for castings in iron.

The erection of electric works and block stations, and of electric light and power plants was very active, but prices suffered from strong competition. Manufacturers of iron and steel wire, barbed wire, wire netting, wire spiral springs, automobile and bicycle lamps, and kneading and mixing machines were well employed.

The manufacture of coal-tar products was not favorable, as the price of coal tar was too high. The wholesale trade in petroleum has expired, and the retailers are now supplied from the tank cars of the petroleum companies. This business is a monopoly. In consequence of the war in Asia, the consumption of high-grade mineral acids increased to a large extent and the manufactories of explosives were busy. The soap manufacturers of Mannheim report good business.

The trade in fresh fruit in 1904 was good. America helped us with its rich crop of apples, which came to us in boxes and barrels. The Baldwins are assorted in three sizes, and have given satisfaction. The finer qualities, such as London and Newtown pippins, arrived in good condition and kept well. After the season for American fruit closed the Australian apples arrived in wrappers and packed in wood boxes, each containing 45 pounds. Canada Reinettes were magnificent, and the grades known as Cleopatra, Jonathan, Favorite, and Adams' Pearmain were fine. In the month of January we received from the Cape of Good Hope fresh apricots and peaches. The consumption of Spanish winter grapes has increased. Mid July fresh grapes arrived from Algiers. The demand for fresh bananas and pineapples (from Singapore, St. Michael, and the Azores), has increased. The domestic fruit crop was very plentiful, but the fruit turned out small in size, owing to the long drought.

The prunes from Bosnia and Servia were not well dried, and arrived in part in a damaged condition, causing loss in weight. We protest against the unfair conduct of the Bosnian and Servian producers. The United States sent good quality of dried fruits, and, thanks to the neat system of packing in boxes and the rational drying of the fruit, these American products enjoy a great and growing popularity.

The report says that, owing to the enhanced rates of the new German tariff on imported rape seed and linseed, the German oil factories will be severely injured, as they will not be able to compete with foreign oil works, which pay no duty on imported seed.

The Industrial Exchange, of Mannheim, which was organized in 1903, has 313 members. Its object is to bring the manufacturers of the district into closer communion for the promotion of their interests. The different branches have special meetings, and samples of their products are exhibited. A special committee gives attention to the export trade and makes efforts to obtain new markets.

The Mannheim Chamber of Commerce in 1904 held twelve general meetings, and at the request of German courts of justice nominated experts in 54 cases. Its delegates represented the chamber in various conventions held in other cities and at home. On important measures concerning legislation, transportation, commerce, manufactures, etc., the chamber addressed memorials to the Government of the Empire and of the Grand Duchy, and held conferences with other chambers of commerce. It also carried on a large correspondence to obtain information and in answering inquiries coming from trade interests at home and abroad.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *March 6, 1905.*

GOLD AND SILVER JEWELRY IN FRANCE.

(From United States Ambassador Porter, Paris, France.)

The "peculiar regulation" referred to in the communication of the American Jeweler, at whose instance this report has been prepared, is the law of 19 Brumaire An. VI (November 9, 1797). By this law the official use of the term "carat" was discontinued and the different qualities of gold and silver have since been expressed in one-thousandths. Three standard qualities were then established for gold, viz, 920, 840, and 750, the last being equivalent to eighteen twenty-fourths, or, as we commonly say, 18 carat. For silver manufactures two standards exist, viz, 950 and 800.

The law prohibits the sale, manufacture, or importation for use in France of any articles in gold or silver of lower quality than 750 for gold and 800 for silver. I would say in this connection that the great bulk of jewelry sold in France is of 750 (18 carat), though the finer

qualities are frequently employed, as in the case of fine medal work, and especially when beautiful effects in enamel are desired. In silverware nearly all of the silversmiths employ the "premier titre," 950 fine, the "second titre," 800, being principally employed in making goods for the cheaper trade and for exportation. According to law every article of gold or silver must bear the stamp of the maker (a special registered mark), also that of the "bureau de contrôle," and for this latter a tax is paid to the Government. Imported articles have a special "contrôle" stamp, and also pay a tax. In each case the tax is computed according to the weight. In establishing the quality allowance is made in case of soldered articles, etc., of 0.003 for gold and 0.005 for silver.

Goods imported into France of a lower quality than the minimum standard are not subject to confiscation unless there is evidence of an attempt to defraud; the importer is, however, liable to have them broken and delivered to him in a damaged condition.

The statement that jewelry of a lower quality than 18 carat is made in France is correct, but it is for exportation only, bears no "contrôle" mark, and is never sold in France. The opinion expressed that the law is a "practical prohibition against the admission of American jewelry into France" seems to be erroneous. A manufacturer seeking trade in a foreign country should naturally consider the character of the goods demanded, and conform with the demands. That 14-carat jewelry is "the best wearing jewelry made" is debatable. The intention of the French Government in framing the law in question was undoubtedly to protect its people, as it certainly does in guaranteeing the quality of every article in gold or silver sold in the country, and in establishing such a high standard France has fostered her jewelry and silverware industries and helped them to attain a position of artistic preeminence which is undisputed.

HORACE PORTER, *Ambassador.*

PARIS, FRANCE, *February 5, 1905.*

GOLD AND SILVER MANUFACTURES IN EUROPE.

(Inclosure in Ambassador Porter's report on gold and silver jewelry in France.)

Summary of regulations governing standards, etc., of gold and silver manufactures in European countries.

Country.	Contrôle.	Standards.	Principal regulations.
Austria-Hungary..	Obligatory; applied by the State.	Gold, 920, 840, 750, 580; silver, 960, 900, 800, 750.	Producer's mark is obligatory.
Belgium.....	Optional	Gold, 800, 750; silver, 900, 800.	Articles which do not correspond to the standard declared receive the mark of the quality below.
Denmark.....	do	Gold, all standards, with minimum 585; silver, all standards, with minimum 825.	Articles must bear no mark inferior to that of the lowest admitted standard.

Summary of regulations governing standards, etc.—Continued.

Country.	Contrôle.	Standards.	Principal regulations.
France	Obligatory; applied by the State.	Gold, 920, 840, 750 (gold for export, 583); silver, 950, 800.	Articles which do not correspond to the standard are broken. Special marks for imported gold.
Germany	Regulated by law; applied by maker.	All standards are used in jewelry. For everything else the lowest recognized standards are gold, 585; silver, 800.	Standard must be expressed in thousandths; articles must bear the trade-mark and the imperial crown in a sun for gold and in a moon for silver affixed by the maker whose responsibility is thus incurred. The imperial crown is not allowed to be marked on jewelry.
Great Britain.....	Obligatory.....	Gold, 916, 833, 750, 625, 500, 875; silver, 925.	The mark is applied by the goldsmith's company under State surveillance.
Netherlands.....	Optional.....	Gold, 916, 833, 750; silver, 934, 833.	Trade-mark is obligatory.
Italy	do.....	Gold, 900, 750, 500; silver, 960, 900, 800.	The contrôle was obligatory until 1872, and this will probably be reestablished. Articles which do not correspond to the standard declared receive the mark of the quality below.
Norway	Obligatory.....	Gold, 750, 583, 500; silver, 830.	Standard and trade-mark are obligatory.
Portugal	do.....	Gold, 750, 580; silver, 800....	These standards are used for watch cases. For all other articles the standards are higher.
Russia	Obligatory; applied by the State.	Gold, 948, 854, 750, 583; silver, 948, 916, 875.	No portion of the article may be less than the standard declared.
Servia	Obligatory.....	Gold, 920, 840, 750, 580; silver, 950, 900, 800, 750.	Trade-mark is obligatory.
Spain	do.....	Gold, 916, 833, 750; silver, 916, 750.	Divers regulations not put into practice.
Sweden	do.....	Gold, 969, 833, 750; silver, 812.	Standard mark, place of marking, year of marking, and trade-mark are obligatory.
Switzerland	Obligatory for watch cases; optional for jewelry.	Gold, 750, 583; silver, 875, 800.	Articles not controlled officially can not bear any mark other than that indicating their actual quality and if they bear any such mark the trade-mark becomes obligatory.
Turkey	Obligatory.....	Silver, 900.....	No regulations for gold.

IRON AND COAL IN GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

Germany exported 2,770,276 metric tons of iron in 1904 and imported 334,967 tons.^a The net exportation of 2,425,309 tons was valued at 543,500,000 marks (\$129,353,000). In 1903 Germany's net exportation of iron was 3,165,320 tons.

Professor Frech, of Breslau, has stated that the industrial supremacy of a country depends largely upon a sufficient supply of coal, and industrial domination rests with that country which possesses both coal and iron in full supply. He further holds as an axiom that iron has to travel toward coal; consequently the latter is the more important material for an industrial country. As the United States has

^aMetric ton=2,204 pounds.

greater deposits of both iron and coal and of easier access by far than England and Germany, our supremacy should be well assured as a manufacturing and exporting nation according to his reasoning.

Great Britain has already put an export duty on coal, many English manufacturers and economists holding that exportation of coal is injurious to the industrial interests of that country. The coal production of Germany labors under great difficulties, as the present general strike of her miners shows. Nor is it likely that these difficulties will permanently cease even should the Government's legislative measures lead to a resumption of work in the coal mines. Farsighted men are of the opinion that the only positive remedy lies in the expropriation of the coal mines and the working of them by the Government. In Prussia, where the chief coal deposits of Germany are situated, the railroads and the telegraph and telephone lines are already owned and operated by the Government, which also owns and works many coal mines in the "Saar" district. Eventually, other industries in Germany, which suffer from the coal strikes and the domination of the coal trust, will advocate the expropriation of the coal mines by the State. If this measure were to be adopted the difficulties now existing would cease; at least such is the opinion of many. The Government, working the mines for the common interest, could afford to pay higher wages to the miners and yet sell the coal to consumers at a much lower price than the coal trust exacts.

The executive committee of the striking miners has just issued an address to the German public, in which it defends its position and calls attention to some of the hardships which the German miners suffer. The address states:

In the year 1885, out of every 1,000 miners working in the Ruhr coal district, 75 met with accidental injuries. In the year 1903 the number of injured had increased to 147 per 1,000 miners. In 1896, of every 100 miners, 51 took sick. In 1903 the number had increased to 71 per cent. In 1865 a miner in the Ruhr district became a full invalid (totally unfit for work) at the age of 50, and in 1903 he had reached that state of incapacity at the age of 44. The mine owners declare it would be ruinous to them to meet the small demands of the miners, yet by their own showing, as seen in the publications of their association, the net profit per ton of coal has increased from 33 pfennigs (7.85 cents) in 1885 to 1.04 marks (24.75 cents) in 1903. The 682,000,000 marks (\$162,316,000) received from coal mining gave a surplus of 125,000,000 marks (\$29,750,000) above cost.

RICHARD GUENTHER, *Consul-General*.

FRANKFORT, GERMANY, *February 3, 1905.*

GLASS PAVING AND BUILDING BRICKS.

On April 15, 1904, the Department of State, at the request of the Secretary of Commerce and Labor, mailed a circular to the consular officers of the United States in Europe, instructing them to obtain information in regard to the manufacture of paving bricks from glass, the material used in the manufacture of such bricks, and their value for the purpose named; also whether bricks of this character are utilized for building purposes, and if so, with what success.

The following reports are the replies to the circular, covering consular districts where the bricks are manufactured or in use. The replies for all other portions of Europe state that glass bricks are neither manufactured nor in use in the respective countries or consulates.

Catalogues and prospectuses which accompanied many of these reports are on file in the Bureau of Statistics, Department of Commerce and Labor, where they may be consulted by interested persons.

FRANCE.

(From United States Consul Thackara, Havre, France.)

Artificial stone made from glass is manufactured in France under the Garchey patents, which are owned by the "Société Anonyme La Pierre de Verre Garchey," a limited liability corporation with a capital of \$115,800, formed in 1900 for a period of ninety-nine years from January 1 of that year. Its offices are at No. 4 Rue Chartras, Paris. Patents for the Garchey process have been obtained in most of the countries of Europe and their colonies, and in North and South America.

The principal French companies which manufacture the Garchey artificial stone are the "Carmausienne," with head offices at Toulouse and works at Bousquet d'Orb, in the Department of Hérault; "La Société Parisienne d'Exploitation des Procédés Ceramiques Garchey," whose offices are at Lyon and whose factories are at Creil, Department of Oise; and Demi-Lune, near Lyon, Department of Rhône. The Garchey stone is also made in Spain, Germany, and Belgium.

Old glass obtained from broken bottles, window panes, etc., is used in the manufacture of products such as paving bricks, common tiles, etc., where uniformity of texture and color are not necessary. For the higher grades, glass is first made from sand of suitable quality, carbonate of lime, sulphate of soda, and potash, the proportion being about 5 of sand, 4 of lime, and 1 of alkali. After being cooled slightly the glass is granulated by being thrown into cold water. The granules are put into refractory molds and again heated to a temperature below

complete fusion until they become plastic. The molds are then withdrawn from the furnace, placed under a hydraulic press, and subjected to a pressure necessary to form the plastic material into the desired shapes. After being trimmed the molds are passed through the cooling process in ovens specially constructed for the purpose.

In the two operations of heating and reheating the cost of coal necessary to obtain the required temperatures is one of the factors which tend to make the production of the Garchey stone expensive. I have been informed that the inventor has discovered another process for making the stone from glass in one heating, by which the cost is materially reduced.

The Garchey company in Paris claims that the cost of production under the old process varies from 86.85 cents to \$1.06 the square meter (10.76 square feet), according to where it is manufactured, the cost of labor, the price of coal, etc., or an average of 96.5 cents per square meter. The company bases its claim upon the results which have been actually obtained in the Spanish, Belgian, and French factories.

The Garchey stone is manufactured in a variety of forms for paving streets, sidewalks, and gutters and for the uses for which porcelain and other tiles are employed, as tiling the walls and floors of bathrooms, operating rooms in hospitals, waiting rooms and staircases of railroad stations, etc. As the Garchey stone has the chemical and physical qualities of glass it is not readily attacked by chemical products, so that it can be used in factories and laboratories where acids and other chemicals are employed, and being impermeable to moisture can be used in cellars and other places where there is much humidity. The stone is also molded in ornamental forms and can be made according to the drawings of architects and interior designers for decorative purposes in drawing-rooms, offices, etc. To my knowledge, the Garchey bricks are not used in the construction of buildings, owing principally to their cost in comparison with other materials.

In the manufacturers' catalogues many shapes and styles are illustrated. The following are the prices of tiles, bricks, etc., mostly used:

Plain, smooth, or fluted tiles 7.87 inches square, or 13 inches square, about three-fourths of an inch thick, used for tiling the sides of kitchens, dining rooms, corridors, bathrooms, etc., or flagging sidewalks, stables, passages, etc., 19 cents per square foot.

Bricks, roughed or fluted, $5\frac{1}{4}$ inches square, 1.57 inches thick, also 7.87 inches long, 3.54 inches wide, 1.79 inches thick, for paving purposes, 27 cents per square foot.

For borders of sidewalks, gutters, or for staircases: Step, fluted or roughened, 19.7 inches long, 6.3 inches wide, 21.2 cents each; riser, 19.7 inches long, 7.87 inches wide, 26 cents each; bottom of gutter, same dimensions, 28.95 cents each. -

For a highly ornamented tile 19.7 inches long, 13 inches wide, 63.7 cents each.

The bricks, squares, and tiles can be made in various colors—white, green, white and black, pink, yellow, etc.

For large orders, or to architects and dealers, the manufacturers allow a discount of from 20 to 25 per cent from the catalogue prices. The manufacturers claim that although the first cost of the Garchey products may be higher than other materials used for the same purpose, yet, owing to their wearing qualities, they are more economical.

The Garchey tiles are in use for tiling the walls, floors, and staircases in several of the stations of the Metropolitan Railway of Paris. In reference to the results obtained, one of the principal officers of the railway company writes me:

Owing to the extreme hardness of these tiles (Garchey), they are not easy to cut, so it is difficult to place them in position or to redress them when they are worn. The smooth tiles become slippery, but with those that are roughened satisfactory results have been obtained. Smooth tiles are used on Line No. 1 and rough tiles on Line No. 2, the usual dimensions being 7.87 inches square and about three-fourths of an inch thick. For walls the Garchey tiles present an attractive appearance, and stand the wear and tear unusually well, but as the tiles can neither be cut nor drilled, except with great difficulty, it is not easy to hang pictures or advertisements. For the staircases it has been found that the tiles become polished rapidly, which makes them slippery when wet.

In several of the large cities of France experiments have been made with the bricks for paving purposes. At the present time the Rues Tronchet and Crimée in Paris are paved with the Garchey bricks. In reference to the experiment being made by the city of Paris, the chief of the highway department writes me as follows:

The Société de Pierre de Verre Garchey was authorized to make a trial of its paving bricks made from glass in the Rues Tronchet and Crimée. The foundation for the paving is composed of a layer of concrete 5.9 inches thick, made in the proportion of 551 pounds of cement, 17.7 cubic feet of sand, and 35.3 cubic feet of small stones, and a layer of Portland cement 0.4 inch thick. The bricks measure 7.87 inches long, 3.74 inches wide, and 1.78 inches thick. They were laid directly on the foundation in rows perpendicular to the border, with a space between them of 0.2 inch, the space being kept by a wooden template of that thickness. The mortar used was mixed in the proportion of 1,322.8 pounds of Portland cement to 35.3 cubic feet of sand. Four days after the paving was finished the streets were open to traffic.

Up to the present time the paving, without having given bad results, does not appear to be wearing as well as that made of natural stone. It has been noticed that alongside of the tramway rails the paving shows signs of deterioration. It is somewhat expensive to keep the streets in good repair. The thinness of the bricks renders them fragile, and being laid directly on a foundation of concrete they are

more liable to break while their sonorousness is increased. It is probable, if the bricks were 4 inches thick and laid like the natural stone blocks on a foundation of sand, they would have given much better results. At the present time the city of Paris has no intention of substituting artificial paving blocks for those made of natural stone, nor in the future, unless it may be clearly demonstrated that it would be a decided economy to do so.

To resume, the conditions of the paving in the streets above mentioned is not such as to render it necessary to stop the experiment and remove the bricks, and it would be better to await the expiration of the three years, the period required for all similar trials, to determine the exact results.

In 1897, at the request of Mr. Garchey, the inventor of the process, tests of artificial stone, in comparison with other stones and materials used in construction, were made in the laboratory of the National School of Roads and Bridges at Paris. The main objects of the experiments were to determine the crushing strains the materials would bear and the effects of frost, concussion, and wear and tear. The results of the tests may be summed up as follows:

1. The Garchey artificial stone resisted a pressure of 28,774 pounds per square inch, while granite only stood a pressure of 9,245 pounds per square inch.

2. Influence of frost: The Garchey stone was immersed in refrigerating mixtures by which a temperature of 20° below zero C. was obtained without any damage to the stone. Afterwards it resisted a crushing pressure of 28,845 pounds per square inch.

3. Wear from friction: The friction was obtained by holding the material to be tested to the face of an emery wheel at a constant pressure of $3\frac{1}{4}$ pounds per square inch, the wheel revolving at the rate of 1,777 feet in one minute. The Garchey stone was classed No. 15 in a list of 27 other materials which were subjected to the same test. The wear of the Garchey stone was 0.45 inch after 4,000 revolutions of the wheel.

4. Resistance to shock: It required on an average 22 blows of a pavior weighing $9\frac{1}{4}$ pounds falling a distance of 3.28 feet to break the Garchey stone, and 3 blows to make the first crack, while other materials ordinarily used for paving were broken in 19 blows.

The manufacture of bricks and tiles from glass in France can not be said to have met with unqualified success. It is the opinion of several persons with whom I have conversed that this is due not to the industrial value of the products, but more to the fact that the process has not been sufficiently exploited.

A. M. THACKARA, *Consul.*

HAVRE, FRANCE, *September 8, 1904.*

GRENOBLE.

(From United States Vice and Deputy Consul Murton, Grenoble, France.)

About a year ago paving bricks of pure crystal glass, based on scientific principles for the diffusion of natural light by radiation, made their appearance on the markets of France, and repeated tests and trials having fully demonstrated their value, they began to find favor with the general public and are being employed in increasing proportions by builders and contractors.

In Grenoble several buildings have already been provided with them, and from personal observation they appear to answer admirably the purpose for which they are intended, namely, the better lighting of cellars, underground rooms, dark corners, etc., by the radiation of natural light.

The following firms are engaged in the manufacture of these bricks: The Luxefer Prism Co., 9 Cours de la Liberté, Lyon; The St. Gobain, Chauny & Cirey Co., 9 rue St. Cécile, Paris, and Messrs. Palon & Royer, 76 avenue de la République, Paris.

I inclose the prospectus of Messrs. Palon & Royer, who are the sole agents and concessionnaires of the Mombel luminous bricks, in which will be found ample details concerning the different varieties manufactured, their sizes and prices, and the application for which each kind is adapted.

T. W. MURTON, *Vice and Deputy Consul.*

GRENOBLE, FRANCE, August 7, 1904.

LYON.^a

(From United States Consul Covert, Lyon, France.)

Early in October, 1898, a paving company of this city began laying on the rue de la République a piece of pavement of ceramo-crystal, ceramic stone, or devitrified glass. During November and December, 1898, and thus far in January, 1899, this pavement has been driven over during all hours of the day and night. It has stood as hard usage as any pavement could be subjected to during that time, and is still in an admirable state of preservation. The glass, or ceramic stone, pavement is laid in the form of blocks 8 inches square, each block containing 16 parts in the form of checkers. These blocks are so closely fitted together that water can not pass between them, and the whole pavement looks like one large checkerboard. Like all thoroughfares in France, the roadbed slopes gently to the walk on each side. Some of the edges of the checkers have been broken off during their three months' service. I counted some twenty of them that have been

^a Republished from Daily Consular Reports for February 18, 1899, No. 354.

slightly chipped on the edges. It is contended, and I think with justice, that this does not argue against the value of the material as a pavement, and that any kind of stone would have suffered just as much or more in the same time.

I visited the Ceramo-Crystal Manufacturing Company's works yesterday, at the suburban village of Demi-Lune, about 6 miles from Lyon. The factories cover nearly 8,000 square yards of ground. Work is now stopped in them while additions are being made to the buildings in the shape of second stories. In the yards are many tons of broken bottles, which the superintendent told me was their "raw material." On the four sides of a large brick smokestack are specimens of ceramo-crystal for buildings and interior decoration, some of the pieces as smooth as highly polished marble, others rough like cut stone, and still others having a surface like common brick.

The advantages attributed to this ceramo-crystal by the manufacturers are: As a pavement, it has greater resistance than stone; it is a poor conductor of cold, and ice will not form upon it readily; dirt will not accumulate upon it as easily as upon stone, and it will not retain microbes; it is more durable than stone and just as cheap.

The Central Architectural Society of France made a report recently on this ceramic stone, of which I give a brief synopsis. An officer of the society reported that he had examined a square, suitable as a pavement or floor for a stable, courtyard, or factory; a block imitating polished marble; a block imitating mosaic, and a panel with molding and ornamentation. He said:

From the various forms in which this material is presented its use can be readily determined for both practical and decorative purposes. On careful examination it is found that the Garchey ceramic stone is nothing but glass brought to a special molecular condition. In a certain sense it constitutes a new substance which resembles flagstone, granite, or marble. The manufacturer assures us that with this material he can copy any model that is presented. The product is obtained from broken glass heated to a temperature of $1,250^{\circ}$ and compressed in matrices by hydraulic force. The physical transformation of glass is due to devitrification under the Garchey process. The phenomenon of devitrification produces a sort of dissolution more apparent than real; for, upon chemical analysis, the devitrified glass preserves the identical composition of natural glass. It may be said, then, that devitrified glass possesses all the intrinsic qualities (physical and chemical) of glass except the transparency, while taking on an entirely different aspect. Furthermore, glass treated under this new method is made to resist crushing, frost, and heavy shocks, and to stand usage.

The subject is being discussed in the press and is receiving general consideration. An elaborate and exhaustive article in the *Revue des Deux Mondes* for November treated it under the heading of "A glass house," the writer asserting that a large house constructed entirely of glass would be an attractive feature of the coming world's exposition

in 1900. He said that glass could be used for tubes, pipes, vats, tiles, smokestacks for factories, and for buildings. Double glass walls in a house would admit of the circulation between them of cold or warm air, thus regulating the temperature. "As to the resistance of such a structure, it would certainly be equal to that of the most solid houses of the day, * * * and it is lighter and less expensive than brick." "The Garchey glass stone had hardly come into existence before a method of using it, both simple and inexpensive, was revealed by the device of the American inventor Golding."

The glass house, or the luminous palace, which it has been decided to build on the grounds of the 1900 exposition, parts of which are now being constructed, is thus described by the writer last quoted:

The principal façade, in the form of an immense portico, its roof surmounted with spires and with a winged statue representing light, will be supported by heavy columns. The ground floor, reached by a double flight of stairs, will be used as a great exposition room. To the right and left will be large glass basins, overhung by grottoes of glass. In the interior of the hall will be five large openings, in which will be represented the five divisions of the globe.

JOHN C. COVERT, *Consul*.

LYON, FRANCE, *January 28, 1899.*

NICE.

(From *United States Consul Van Buren, Nice, France.*)

The manufacture of glass paving bricks is not carried on in this district, and no bricks of this character are utilized for building purposes. Some years ago the municipality authorized an individual representing a manufacturer to pave with glass bricks a piece of the principal business thoroughfare, having a surface of about 1,000 square feet. It would appear that the experiment did not satisfy the authorities, for the piece of pavement was removed some months afterwards. I remember seeing the bricks laid, and it struck me that the work was being very hastily and superficially done, and I noticed shortly afterwards that the bricks had moved.

HAROLD S. VAN BUREN, *Consul*.

NICE, FRANCE, *May 24, 1904.*

PARIS.

(From *United States Consul-General Gowdy, Paris, France.*)

The use of glass in the manufacture of blocks has been discussed for some years, and the new glass stone made by the Garchey Company seems to be the most improved kind yet patented or invented.

It is glass devitrified by a special process, and offers a resistance of about three times that of granite. The atmosphere seems to have no effect upon it. It is claimed by the makers, the Compagnie de la Pierre de Verre Garchey, 4 Rue Charras, Paris (with branch factories in England, Belgium, Germany, and Russia), that it is harder than St. Raphael porphyry, and twice as hard as Comblanchien stone. It is also said to be capable of resisting an electric current of 60,000 volts, thus making it an excellent insulator by reason of its great resistance to high electrical tensions, to crushing, and to impact.

The process is patented, but appears to be simple, viz: The glass is devitrified, put into molds, which are placed under hydraulic pressure and the block allowed to become hard. I inclose a copy of the company's catalogue, showing sizes of blocks, shapes, combinations, etc. Mr. Cheswright, of 29 Rue Mogador, Paris, who is interested in the patent, states that he will be pleased to give information as to rights of manufacture, etc., to any American firms writing to him direct.

There is also a hollow brick made of glass by the Société des Verriers de Dorignies, Nord, France, of which I send two or three samples; also a certain catalogue marked Exhibit 2. Mr. L. Viennot, 9 Boulevard de Denain, is the agent in Paris, but it is preferable to communicate direct with the company at Dorignies, Nord, France. Their bricks are hollow, but in different shapes and combination, and are suited for the construction of party walls, conservatories, etc.

I also inclose price list of perforated glass blocks made by Appert Frères, 34 Rue des Chasses, Clichy, Seine. These are suited for tops of windows, roofs, etc., for hospitals, barracks, factories, and kitchens.

JOHN K. GOWDY, *Consul-General.*

PARIS, FRANCE, *July 16, 1904.*

ST. ETIENNE.

(*From United States Consul Brunot, St. Etienne, France.*)

Some years ago a plant was put up in this city for making bricks with glass as a base, but was closed in a very short time, the product finding no market. No other attempts in this department or in the others comprising this district have been undertaken. Bricks made from pure glass are almost unknown here. Some shops and hotels are furnished with floors or patches of floor made of glass, but no glass bricks are used in the streets in lieu of the ordinary stone. For building purposes no experiments have been made with such material. Glass tiles for sky and floor lights are coming into favor with architects. They are made of very transparent glass and cost 77 cents each, their usual dimensions being 16 by 10 inches. These tiles are chiefly manufactured at Passavant (Haute Saône) and at Ecuisses

(Sàone et Loire), while the glass flooring comes from St. Gobin, near Paris. The use of bricks or tiles is very limited in the district, although on the increase as compared with former years.

HILARY S. BRUNOT, *Consul*.

ST. ETIENNE, FRANCE, *May 28, 1904*.

GERMANY.

(*From United States Consul-General Mason, Berlin, Germany.*)

GLASS PAVING BRICKS.

So far as can be ascertained, no glass paving bricks proper have been made or even tested in this district under such conditions as to afford a basis for rational conclusion as to their permanence, their cost as compared with other paving material, or their general desirability for that purpose. The editor of the *Glas Industrie*, the central organ of the German glass and ceramic industries, states in reply to an inquiry, that Lyon, France, is the only city known to him in which glass paving bricks have been most thoroughly and systematically tested, but the exact results of such tests are unknown here. Translucent glass tiles 5 or 6 inches square by 1 inch in thickness, are used for paving walks over cellars and subterranean vaults, engine rooms, and other places where more or less light is required to pass through the pavement, but this is a branch of the subject somewhat aside from the scope of the inquiry. No official or technical experiments appear to have been made in Berlin with glass blocks for paving streets and roadways.

GLASS BRICKS FOR BUILDING PURPOSES.

There are, however, three firms in eastern Germany, viz, the *Glas-hüttenwerke Adlerhütten* at Penzig, near Görlitz, Silesia, the *Actiengesellschaft für Glasindustrie* in Dresden, and *Gebrüder Streit*, of Berlin, whose factory is in Silesia, all of whom make bricks of glass, not for paving, but for building purposes, in which the blocks, more or less translucent, are laid up in walls like bricks of ordinary character. At the international exposition of fire-extinguishing and fire-preventing devices, held in Berlin in 1901, the second of these companies exhibited a small chalet or villa, the walls of which were built of such bricks in several shades of dark green and blue, which attracted attention as a novelty. The avowed purpose of the exhibit was to demonstrate the merits of such material for resisting fire, and in this respect the tests, so far as can be ascertained, resulted satisfactorily.

Messrs. Streit manufacture in two shades—white and green—glass bricks which are especially adapted to the construction of walls and buildings where light, cleanliness, and neatness of appearance are

specially desired. They are made in two sizes, both 2 inches thick, 24 inches wide, and 5 and 10 inches long, respectively, the short brick being half the length of the full-sized one. The edges are made with flanges which fit into countersunk recesses, so that the bricks may be laid, with very little cement, into air-tight and very firm, although thin, walls, and have a special fitness for many purposes, although their fire resistance is of course limited to the melting temperature of glass. They cost, by the list, 11 cents each for the large and 9 cents each for the small size, from both of which list prices there is a discount of 35 per cent for quantities exceeding 1,000.

FRANK H. MASON, *Consul-General*.

BERLIN, GERMANY, *August 5, 1904.*

DRESDEN.

(From United States Consul-General Cole, Dresden, Germany.)

Paving bricks from glass are manufactured by the Glashüttenwerke Adlerhütten Actiengesellschaft, at Penzig, Silesia, Germany, about one hour's ride by train from Dresden. This firm owns and works the German patent No. 91203, issued to Louis A. Garchey, of Paris, France, on March 21, 1896, the claims of which read as follows:

1. A process for the manufacture of objects from devitrified glass, consisting in bringing about devitrification already in the raw mass before forming the object.

2. A mode of carrying out the process, consisting in starting the devitrification of the raw mass in a heating furnace and finishing it in a melting furnace.

The product is known as "keramo," and is successfully used as a covering for floors of railroad stations, warehouses, engine rooms, stables, and for sidewalks, staircases, etc. It surpasses in point of hardness and wearing quality the very best Swedish granite. The bricks, or rather plates—for they average only 1 inch in thickness—are each about 8 inches square, and are laid out on cement mortar in the manner of the "Mettlacher plates." The power of resistance against pressure and frost is proved, for plates in the natural state stood a pressure of 4,050 pounds per square centimeter (0.155 square inch). and plates, after a frost test, stood a pressure of 4,060 pounds per square centimeter. Keramo plates are absolutely acid proof. In the adhesion test the resistance equaled 32 pounds per square centimeter. For tearing loose an 8-inch square plate laid out in cement a pulling force of over 12,500 pounds was required.

The prices for 25 plates (each 8 inches square) to the square meter. f. o. b. works, are \$2.50 first quality and \$1.80 for seconds. The weight of the square meter is about 100 pounds.

BUILDING BRICKS FROM GLASS.

The same firm manufactures glass bricks for building purposes (system "Falconnier," patented). The bricks were exhibited at the Chicago Exposition in 1893 and received first awards. I remember the glass-brick pavilion in front of the horticultural building and the interest it aroused at the time. The bricks are made of blown glass, and owing to their hollow, closed form are excellent temperature and noise insulators, and do not sweat or freeze. They are cemented together with mortar made of 3 parts sand, 1 part Portland cement, and enough white lime to render the mixture easily workable. These bricks are manufactured in various sizes, shapes, and colors, and average from $3\frac{1}{4}$ to 16 cents each.

A recent patented improvement consists in the application of a wire mantle. The price of the bricks is thereby only slightly raised, while the stability is greatly enhanced. The wire-mantled bricks are set up like ordinary bricks, with hardly any breakage.

For ventilation of glass-brick buildings, a special ventilator is constructed, of which a number can readily be inserted in any desirable location, as they conform exactly to the shape of the bricks. These ventilator bricks are sold at 50 cents and 75 cents each, according to execution.

CHARLES L. COLE, *Consul-General*.

DRESDEN, GERMANY, *June 13, 1904.*

HAMBURG.

(*From United States Consul-General Pilcairn, Hamburg, Germany.*)

Glass bricks are not used in Hamburg for paving, but are occasionally utilized for building purposes, and with satisfactory results. In place of windows they are used to admit light in walls which, according to the police building regulations, are required to be fireproof and windowless. In addition to admitting light to dark hallways, rooms, etc., they possess the same strength as ordinary clay bricks. The hollow, so-called glass stones of the "Falconnier" system, which are made of blown glass in all colors and various shapes, are mostly used. They are also utilized in walls in yards and in partitions in the interior of houses, salesrooms, offices, workshops, etc., and for the construction of verandas, hothouses, kiosks, bathrooms, hospitals, ice factories, butcher shops, railroad stations, breweries, dairies, stables, factories, and in other localities where cleanliness, much light, and equable temperature are particularly desired. They are utilized in workshops where chemicals producing noxious vapors are manufactured or handled, and for insulating partition walls. The bricks are also manufactured with a wire coating for strictly fireproof walls.

These bricks are manufactured in Dresden, and the "Falconnier" glass building stones are manufactured by the Glashüttenwerke Adlerhütten Actiengesellschaft, at Penzig, Silesia. No glass bricks are manufactured in this consular district. Their use is still very limited and of little importance.

HUGH PITCAIRN, *Consul-General.*

HAMBURG, GERMANY, *June 8, 1904.*

ITALY.

MILAN.

(*From United States Consul Brush, Milan, Italy.*)

The use of paving bricks made of glass in Milan is limited to cover underground passages and for floor lights. In some recently erected buildings they have been adopted for ground and upper floors on account of the light obtained. They are also coming into use for partition work in some hospitals on hygienic principles.

These bricks, or so-called "tiles," are manufactured in Italy, but are also largely imported. Bricks made from glass for building purposes are not manufactured in this district, but I have been informed that the "Societa di S. Gobain," at Pisa, an Italian branch of the well-known French company, has experimented in them, with what success I am not in a position to say. This company manufactures the so-called "Dalles," which are also used for paving and roofing purposes.

HARLAN W. BRUSH, *Consul.*

MILAN, ITALY, *June 15, 1904.*

TURIN.

(*From United States Consul Cuneo, Turin, Italy.*)

There is a glass factory in this city making paving bricks from glass in limited quantities; enough, however, to supply the demand. An official of the plant informed me that they use the same material as in the manufacture of heavy ordinary glass. The bricks produced are dark green and are used in paving places where light is desired in basements of business houses and other buildings. They are extensively used in modern buildings.

In one of the leading banking institutions of the city, of modern construction, the lobby office floor, which is about 36 by 58 feet, is entirely paved with glass bricks laid in iron frames for the purpose of admitting light into the basement where are numerous private boxes. The glass bricks used in this floor are light, of superior quality, imported from the La Gobain plant, France, and, I am informed, are

made of material similar to that used in the production of fine plate glass. This firm has a subplant located at or near Pisa, Italy, for the superior material to be obtained in that region for the purpose.

PIETRO CUNEO, *Consul*.

TURIN, ITALY, *May 31, 1904.*

NETHERLANDS.

(*From United States Consul Listoe, Rotterdam, Netherlands.*)

Paving bricks are not manufactured in the Netherlands. Of glass bricks sold Huinck & Imhofe, of this city, who are the sole representatives in the Netherlands for the manufacturers, refuse to give their names, and the dealers in building materials and the contractors and builders using the bricks know nothing of their origin. The bricks are made of pressed glass waste in various shapes, mostly square and oblong, are gray in color, exceedingly hard, and are not transparent. Huinck & Imhofe showed me samples of more than twenty kinds, some of them made in imitation of plaster ornaments. The demand for the bricks, while still limited, is growing. The plain bricks are used to advantage for paving bridges and vestibules of large public and office buildings, and also for wall coverings in chemical factories. As the bricks are insulating they will be used in the electric power houses now in course of construction for the electric street-car companies of Rotterdam and The Hague. The ornamental bricks are principally destined for bridge decoration. Up to date, however, there has been no demand for these.

Blown-glass building bricks, hollow, and of octagonal shape, are used in the Netherlands to a limited extent. The only dealer handling them sells them in small lots of from 50 to 100. They are used principally for light-giving purposes in walls of machine shops and conservatories. The bricks are of a greenish color and transparent. The total consumption of these for Rotterdam and vicinity has been 14,000 during the last three years. The bricks have been for sale at Rotterdam for the last six years, but it took a long while before any demand was created.

S. LISTOE, *Consul-General*.

ROTTERDAM, NETHERLANDS, *June 4, 1904.*

RUSSIA.

(*From United States Vice and Deputy Consul Schulin, Riga, Russia.*)

Glass bricks adapted exclusively for paving purposes, so-called "prisms," are produced by the Russian firm "Actiengesellschaft Zombkowicz Glasfabriken" in its factories situated at Zombkowice, Poland. The article is manufactured, pressed and uncut, from ordinary pellu-

cid glass metal, in the form of oblongs adjustable by means of iron frames. As coverings for light shafts, etc., they are considered to answer the purpose just as well as the article manufactured by the "Luxfer Prism Syndicate," the introduction of which has also been tried here, but as yet without any success worth mentioning.

Another kind of brick of glass manufactured according to the "Système Falconier," of which the Warsaw firm Steck is the general representative for Russia, is produced in Kielce, Poland. These bricks, made of green blown glass and hollow, are mostly utilized for the construction of windows, partitions, etc. The cases in which they have been employed in these provinces are as yet too few to allow conclusions to be drawn with regard to their practical value.

● CHR. SCHULIN, *Vice and Deputy Consul.*

RIGA, RUSSIA, June 2, 1904.

SPAIN.

(From United States Consul-General Lay, Barcelona, Spain.)

The only manufacture of paving bricks from glass in Spain is that recently established at San Sebastian, in the province of Guipuzcoa, where a stock company with an authorized capital of 5,000,000 pesetas (\$750,000) has been formed under the name of the "Sociedad Española de Piedra Vidrio y de Construcciones Garchey" (the Spanish Glass Stone and Garchey Construction Company). As its name implies, the company will work the Garchey patents. Important works are in course of erection at the little seaport town of Pasages, and sanguine hopes are entertained that a large demand will speedily grow up in this country for these bricks, owing to the many purposes for which they can be utilized and the evident advantages they offer.

The devitrification of glass whereby its transparency and brittleness are replaced by an opaque appearance and a hardness resembling granite, is no new discovery. Many eminent French scientists had succeeded in devitrifying glass, but they had failed to find a practical process whereby a marketable value could be given to the product.

Mr. Garchey has discovered a system for thus altering the molecular structure of glass which enables him to offer a new product to builders, the practical value of which can hardly be overestimated. In appearance it resembles granite with a variety of tones of color, these depending on the nature of the metallic oxides contained in the materials used in its composition, or which may be purposely added in the process of manufacture. It retains all the qualities of ordinary glass, in so far as to be unaffected by acids, being, therefore, particularly suitable for the floors and walls of hospitals, operating rooms, chemical laboratories, etc., as also for slaughterhouses, or even stables.

It is further claimed that these glass bricks do not absorb moisture, being nonporous, and that therefore they form the most hygienic material known for paving the streets of large cities. Their hardness is greater than that of any kind of stone used in building, tests showing that it required a pressure of close to 29,000 pounds to the square inch to break the material, or 22 blows from a weight of $9\frac{1}{2}$ pounds falling from a height of 39 inches.

The special features mentioned also give the bricks a great resistance to wear and tear, as may be seen from the report of the laboratory of the army corps of engineers, a copy of which I append. In this report a comparison is made between Garchey glass stone and Carrara marble, it being found that the former is fifteen times harder than the marble. It might be feared from the fact that these bricks are made from glass that they would be too slippery for street pavements, but it is stated that their rough, corrugated surface makes them no more slippery than any other paving stones.

Finally, the manufacturers of these glass bricks claim that they are absolutely unaffected by rapid changes in temperature; that they are nonconductors of heat, and therefore particularly adapted for building purposes; and that for electric-generating stations and other electric purposes no better insulating material can be found than Garchey glass stone, which can resist a tension of 60,000 volts.

Five glass works in France and one in England are now making Garchey glass stone, and negotiations are in progress for working the patent in Russia, Austria-Hungary, and Roumania.

JULIUS G. LAY, *Consul-General.*

BARCELONA, SPAIN, *June 15, 1904.*

SPANISH ARMY CORPS TESTS.

(Report on Garchey patent glass stone by the laboratory of the army corps of engineers, Madrid, Spain.)

1. Structural remarks: The samples present a very marked vitreous appearance, homogeneous greenish color, and compact texture; free from extraneous bodies and bubbles.

2. Determination of specific weight: This has been ascertained by the volumetric process, utilizing the dust which passed through a sifter of 900 meshes to the square centimeter, and which failed to pass one of 4,900. Three tests were made with the average result, specific weight, 2.60.

3. Apparent density: To determine this the samples were dried in a Fremy stove at a temperature of 40°C. , and were afterwards weighed in fine scales. The volume was found by means of hydrostatic scales after the samples had been first saturated in water and successively weighed in the air and submerged in water. The difference between these two weighings in grams represents the volume of the sample in

cubic centimeters and fractions of a centimeter. These tests were made with the average result, apparent density, 2.59.

4. Absolute porosity: This has been deduced from the specific weight and the apparent density, dividing the difference between the two by the specific weight, thus a figure is arrived at which represents the relation between the volume of voids and the total. Absolute porosity, 0.0038.

5. Tests of resistance to frost: For these tests four samples were used which had been previously saturated in water under the bell of the pneumatic machine at a pressure of 50 centimeters of mercury. They were then subjected during four hours to a temperature varying between -10° and -15° C. This operation was repeated twenty-five times with the following results:

Resistance to frost.

Samples.	Weight.	Weight after saturation.	Percentage of water to weight.	Effect of freezing.
	<i>Grams.</i>	<i>Grams.</i>		
G 5.....	902.1	902.7	0.06	No apparent change.
G 6.....	714.0	715.6	0.20	Do.
G 7.....	827.9	828.8	0.10	Do.
G 8.....	810.3	811.4	0.10	Do.

6. Resistance to wear and tear by friction: This test was made with a Dorry machine, constructed by Digeon, silicious sand being used, which passed through a hair sieve of 324 meshes to the square centimeter and not through one of 900. The stone used for comparison was Carrara marble. The stone was made to run at the uniform speed of 2,000 revolutions per hour, and both the sample under test and the other stone used were weighted with 250 grams to every square centimeter of surface under friction. The following are the average results of these tests:

Resistance to wear and tear.

Samples.	Weight per square centimeter.	Loss by wear and tear in 2,000 revolutions.	
		In height.	In weight per square centimeter.
	<i>Grams.</i>	<i>Centimeters.</i>	<i>Grams.</i>
Carrara marble.....	250	1.50	3.90
Garchey glass.....	250	.10	.34

The weight was applied vertically with the center of gravity in both samples.

JOSÉ MARVA, *Colonel Director.*

MADRID, SPAIN, *November 18, 1901.*

SWITZERLAND.

(From United States Consul-General Peters, St. Gall, Switzerland.)

Upon consulting the principal architects in this city, I learn that glass bricks of different shapes and sizes are manufactured by the Falconnier Glass Works, in Horw, Canton of Lucerne. The bricks are considered most durable, and give great satisfaction. Their use in building has not been extensive as yet in St. Gall, consequently the architects have not been able to test their durability on a large scale. The few experiments that have been made in this city are restricted to roofing, for the purpose of conducting light into dark rooms, for cellars, subways, engine houses, etc. Glass paving bricks are imported into Switzerland from Germany.

THOMAS WILLING PETERS, *Consul-General*.

ST. GALL, SWITZERLAND, *July 6, 1904.*

ZURICH.

(From United States Deputy Consul Simon, Zurich, Switzerland.)

Glass bricks for paving and building purposes are not made in this consular district. The city of Zurich, some fifteen months ago, ordered for trial a quantity of glass bricks from France to pave several hundred yards of a street where the traffic is very heavy. In a very short time, however, the space paved became in such bad condition that the bricks, being too brittle, had to be replaced by other material. It is thought that glass bricks may do well enough for paving sidewalks, but so far no trials have been made in this city, nor elsewhere in the district.

JOSEPH SIMON, *Deputy Consul*.

ZURICH, SWITZERLAND, *June 11, 1904.*

UNITED KINGDOM.

BIRMINGHAM.

(From United States Consul Halstead, Birmingham, England.)

Glass bricks are not manufactured here, but I find that the Crystal-line Company, located in my consular district, is preparing to make them for paving and building purposes.

This firm has patented and has for some time been using a special process of manufacturing tiles from glass combined with china clay, having upon their rear surface rough "keys" or "grips" enabling the tiles to hold very firmly into a special cement, also patented, which expands and contracts "at the same ratio as the glass tiles." A publication devoted to Black Country industries, describing this tile, which

it considers ideal and which has had a large sale, states that while the ordinary tiles were made from earthenware and had excessive weight and bulk and were difficult to use for covering irregular surfaces or for the adornment of ceilings and the lighter forms of decorative work, these difficulties have been overcome in the glass and china tiles. The new tile is hard and almost indestructible, light in weight, easily affixable to either regular or irregular surfaces, retaining its brilliancy without crazing, that is, cracking on the surface, and because of the grip or key at the back adhering perfectly and permanently, and it can be manufactured in any kind of curve, angle, or molding. The publication also claims that the company has a process by which it is possible to produce any number of colors in glass, as many as thirty-six colors in one piece.

Finding that a colleague at Lyon, France (Consul John C. Covert), had reported the use in Lyon of glass bricks for pavements and for building purposes, I sent a copy of his report to the Stourbridge manufacturer referred to. In acknowledging its receipt the Stourbridge manufacturer says that he is very well acquainted with the Garchey method, and while the material results are much like those of his own process, he "gets a porous glass stone something like lava," and calls attention to the fact that many years before M. Garchey produced his glass bricks, the old French chemists, Reaumur and Pelouze, pointed out that "devitrification" was possible. He adds that Garchey certainly produces valuable material for building purposes, and that there are other firms in Jeumont and other parts of France and in Brussels making building blocks very cheap, and that these firms can also make imitation faience of glass stone, now largely used for building purposes. My Stourbridge correspondent expresses the belief that glass in various forms will in time supersede ceramic productions, because cheaper and more lasting, and not liable to craze, and he is very optimistic about the chances of his own process for making glass bricks, which, though requiring larger initial outlay, will be, he believes, cheaper than any of the others. Though unable to verify it, he has heard that a firm in England, near Castleford, has taken up the manufacture of bricks by the Garchey process.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *June 28, 1904.*

LEEDS.

(From United States Consul Dexter, Leeds, England.)

About fifteen or twenty years ago bricks were manufactured in England from the slag left over in iron and steel works. In a trial section of paving with these bricks, that their practical usefulness

might be determined, two serious and unexpected features were developed. As the bricks wore they became slippery, and while the slag brick was generally as hard as glass, soft spots occurred, causing holes therein. As neither of these objectionable features could be corrected, the attempt at the manufacture of slag bricks proved a failure. This was the nearest approach ever made in this district to the manufacture of glass bricks.

LEWIS DEXTER, *Consul.*

LEEDS, ENGLAND, *June 2, 1904.*

NEWCASTLE-ON-TYNE.

(*From United States Consul Metcalf, Newcastle-on-Tyne, England.*)

The nearest approach here to glass bricks are scorial bricks manufactured in the Middlesbrough district from the waste slag from the ironstone blast furnaces. These bricks are only used for street paving, etc., and are not intended for building purposes, at least no case is known where they have been so utilized. The price varies from \$2.68 to \$3.16 per ton, free on trucks at the works. During the last ten years scorial bricks to the value of about \$69,000 have been exported from Middlesbrough to the United States, chiefly to Philadelphia.

HORACE W. METCALF, *Consul.*

NEWCASTLE-ON-TYNE, ENGLAND, *June 3, 1904.*

SHEFFIELD.

(*From United States Consul Daniels, Sheffield, England.*)

There are no bricks made from glass in this consular district, nor are any bricks made from this material used in the city of Sheffield either for paving or building purposes.

The authorities of the city have been engaged for some time in trying to convert the refuse from its garbage destructors into slabs for use in the construction of sidewalks and footpaths. This is done by grinding the slag to the requisite fineness, and in combination with cement, molding it into slabs. Fairly serviceable walks are obtained, and the garbage refuse is in this way disposed of. The experiment was commenced to determine whether this method of disposition would be more economical than to purchase ground and dump the refuse from the destructors thereon, and the experiment has not yet been tried sufficiently to warrant those engaged in it to advise its use generally.

CHARLES N. DANIELS, *Consul.*

SHEFFIELD, ENGLAND, *June 15, 1904.*

ECONOMIC EXPANSION CONGRESS.

Under date of March 31, 1905, the Acting Secretary of State informs the Secretary of Commerce and Labor that a note, dated the 25th instant, has been received from the Belgian minister at Washington, stating that there will be held at Mons, Belgium, September 24 next, a congress on the subject of the economic expansion of the world, extending an invitation to this Government to be officially represented at the congress, and asking that the matter be made public for the information of all who are interested in economic problems.

The Department of State will issue certificates of appointment to any persons the Secretary of Commerce and Labor may nominate as delegates on the part of the United States, and who will be willing to attend the congress at their own expense, without compensation from this Government.

Copies of the prospectus of the congress are on file in the Bureau of Statistics, Department of Commerce and Labor.

TREATMENT OF SUGAR BY "REDO."

(From United States Consular Agent King, Lille, France.)

The most important sugar factories of France, Spain, and Belgium are employing a new reducing agent for sugar making and refining. This agent, recently introduced into Austria, England, Germany, and Russia, is commercially known as "redo." The introduction of redo is facilitated by the fact that it does not demand a transformation of the existing apparatus for sugar making and refining. It may even be used in connection with boneblack, sulphitation, or other processes, the results obtained being much improved and the cost of production lessened.

Employed alone, redo not only effects an economy in expense and manipulation, but clarifies very perfectly and diminishes the by-product of molasses. The action of redo appears to be so effective that experiments are being made with a view to simplifying the series of operations now followed out in sugar making. At Lille, Bordeaux, and Barcelona sugar makers, owing to effectiveness of redo, have practically suppressed the operation of dosing at the second carbonation.

REDO.

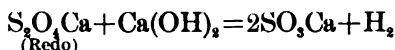
Redo is a neutral, technically pure, crystalline hydrosulphite, which operates in an alkaline solution. Its use effects perfect hydrosulphitation, so long the desideratum of sugar experts. Hydrosulphitation is

by no means unknown to sugar chemists, but the lack of a neutral hydrosulphite, unvarying in its operations and effects, rendered its adoption impracticable. Like sulphitation, first put aside, declared dangerous and utopian by Maumené, and now so extensively employed, the process of hydrosulphitation for treating sugar was entirely neglected. Redo has, however, brought it once again to the attention of sugar experts, and its superiority over all forerunners has been demonstrated. The nonsuccess experienced hitherto in the treatment of juices and sirups by hydrosulphitation was attributable less to the instability of hydrosulphurous acid than to the incomplete knowledge of that acid and its properties.

The existing liquids sold under the name of hydrosulphites or manufactured by the action of zinc powder upon bisulphite merit no longer the appellation of hydrosulphites. These liquids, unlike redo, are unstable, caustic, and owe their reducing power to a very small and variable quantity of hydrosulphite contained in them. Redo, on the contrary, is a neutral, isolated, pure, and conservable hydrosulphite. This announcement may come as a surprise to chemists knowing the instability of hydrosulphurous acid. The proof of the existence of this substance is, however, extant, and its utility to science and industry will certainly rank its discoverers (Louis Descamps and Joseph Harding) among the eminent chemists of the last century.

ACTION OF REDO ON SUGAR.

Redo, a reducing agent, acting in an alkaline solution, has not and can not have any action upon the saccharine. The viscosities, the organic and coloring matters, which constitute the impurities of sugar, are alone attacked, reduced, and destroyed. The effective reaction by which redo operates is shown in the following formula:



A close study of this equation will explain at once the mode of operating, the reasons of the application, and the causes of the success of redo. We discover that it is a neutral calcium salt ($\text{S}_2\text{O}_4\text{Ca}$), operating under the action of calcium hydroxid or slacked lime ($\text{Ca}(\text{OH})_2$). It is a neutral, clearly defined salt, containing no offensive matter, and by the reaction shown above is converted into a sulphite of calcium and hydrogen, thereby producing the double action of sulphitation and the formation of nascent hydrogen.

Nascent hydrogen acts most efficaciously upon the viscous and organic matters, as well as in decoloring. Sulphitation alone can not produce this reaction, for with sulphurous anhydrid ($\text{SO}_2 + \text{Ca}(\text{OH})_2 = \text{SO}_3\text{Ca} + \text{H}_2\text{O}$) or hydrate ($\text{SO}_3\text{H}_2 + \text{Ca}(\text{OH})_2 = \text{SO}_3\text{Ca} + 2\text{H}_2\text{O}$) we ob-

serve a neutralization of the lime by sulphurous acid, and do not perceive the generation of nascent hydrogen which is particular to the reaction of redo.

After operating, redo is eliminated from the juices and sirups, provoking at the same time the separation of other mineral and organic salts. A point deserving attention is that the presence of redo in the juices and sirups has no harmful results. Whether or not traces of redo are found after action, the sugar is as pure as the best refined quality. This is due to the antiseptic and unfermentable quality of redo and its absolute harmlessness, and whether eliminated in a calcitic or barytic form it performs the function of a purifying precipitant under the most favorable conditions, and is consequently more qualified than boneblack for purifying and decoloring.

In no case does any inversion appear to be caused by the use of redo. No disturbance in the ordinary running order of the factory or the machinery is possible. Redo utilizes the existing material, and its use may be begun or abandoned at any moment without causing the least inconvenience. On the contrary, the work in the different stages of manufacturing and refining is rendered easier and more economical. The filtrations are much better, the cooking is less frothy and more rapid, the turbinage less difficult, the wastes more fluid, and less decoloring is evidenced. Incrustations at triple effect are not to be feared. The sulphite of lime being diminished to a certain extent before the arrival of the juice, the tubes are less clogged, and evaporation remains active.

APPLICATION OF REDO.

Redo is employed in various doses, according to the quality of the juices to be treated and the fluidification and decoloration sought after. Before proceeding with the second carbonation 0.7054 ounce of redo per hectoliter (26.417 gallons) of juice is utilized. When the sirup comes out from the triple effect, 30 to 32 degrees Bé., 0.5300 ounce to 2.8216 ounces per hectoliter suffices, together with the corresponding quantity of baryta for redosing and heating. In the treatment of inferior products and wastes 2.8216 to 4.2342 ounces of redo are employed per hectoliter. The wastes thus treated at 27 to 30 degrees Bé., and redosed at 70 to 80 degrees, with the alkalinity assured by phenolphthaline, are heated up to at least 95° C., and even continued to veritable ebullition. All things taken into consideration, the cost of employing redo is reckoned to be about 25 cents per ton of sugar.

HYDROSULPHITES.

The discovery of redo led to the finding of a whole family of hydrosulphites, the utility of which can not at present be precisely deter-

mined. Redo, or hydrosulphite of calcium, has found a wide field in the sugar industry. Another has already taken a firm hold upon the dyeing or indigo trade, and has given substantial proofs that it is a more effective, rapid, economical, and cleaner dissolving and reducing agent for indigo than either coperas or zinc powder.

C. J. KING, *Consular Agent.*

LILLE, FRANCE, *March 6, 1905.*

OYSTERS AND TYPHOID FEVER.

(From United States Consul Halstead, Birmingham, England.)

When the report of the investigation by the sewerage commission into the contamination of oysters by sewerage was issued I sent an abstract of it, which was published in the Daily Consular Reports. Further information on the subject is contained in a report of an investigation by Professor Klein, F. R. S., for the Fishmongers Company to ascertain the vitality of the typhoid bacillus when introduced into shellfish. The Fishmongers Company has published Professor Klein's preliminary report, which contains the following conclusions:

(1) Oysters readily take into their interior the bacillus typhosus which has been introduced into their shell or into the surrounding sea water. (2) Oysters clean at starting rapidly clear themselves of the ingested typhoid bacilli if they are kept in clean water which is frequently changed. (3) Oysters clean at starting clear themselves of the ingested bacilli to a less extent and slower if they are kept in a "dry" state, i. e., out of the sea water. (4) Oysters from a polluted locality clear themselves of the ingested bacilli to a less extent and at a slower rate, even if kept in sea water, than oysters clean at starting. (5) Oysters from a polluted locality retain the ingested typhoid bacilli to a markedly larger extent if kept "dry," i. e., outside the water. (6) The process of "clearing themselves" of the ingested typhoid bacilli can not be owing to the oyster merely "passing out" these bacilli, but must be due to a large extent to an inherent power of the oyster of directly devitalizing the microbe. Experiments with the "dry" oysters prove this, and it is also evident from the rapid rate at which this microbe disappears from the oysters kept in clean water if compared with the very small number found at the same time in the surrounding sea water. (7) Oysters which had been affected with typhoid bacilli and were then kept in a "dry" state until they had practically cleared themselves, when subjected to reinfection with the bacilli, appear to be less capable of dealing with them, even if kept in clean sea water, than reinfected oysters which have always been kept in the water. This is explicable on the obvious supposition that oysters kept some days out of the water do not possess the same degree of activity and vitality in their tissues as those which have been kept under normal conditions. (8) Oysters from a polluted locality, containing a large number of the bacillus coli, very rapidly clear them-

selves of this microbe, whether kept in or out of the water. This shows that bacillus coli is foreign to the oyster and is rapidly destroyed by it. When, therefore, it is present in the oyster, it must have been derived from the surroundings. (9) However largely infected with typhoid bacilli, the oysters at no time present to the eye any sign of such infection; they remain in all parts of normal aspect. This is the case not only with all infected oysters kept in sea water, but also with infected oysters kept in the "dry" state. There was only one exception—an oyster derived from a polluted locality and which had been eleven days out of the water. (10) During the time of the experiments (part of September, October, and part of November) the oysters lived quite well in sterile sea water, frequently changed. There was no noticeable alteration in their aspect; they remained plump and juicy and capable of promptly and tightly closing their shells. (11) Cockles readily embody typhoid bacilli present in sea water. Although the number first appears to diminish in the body of the cockle, it soon increases to a considerable degree, for five days after cockles have been removed from polluted water to clean sand the number of typhoid bacilli in their bodies was threefold that originally present. Their subsequent diminution proceeds slowly, since a cockle examined ten days after removal from infected water still contained in its body 69,000 typhoid bacilli. (12) Mussels also readily embody the typhoid bacillus; in fact, analysis seems to show that they do so to a greater extent than oysters or cockles. As regards the fate of the typhoid bacilli in mussels, these appear to stand between oysters and cockles, since in mussels the bacilli undergo gradual diminution, which occurs incomparably slower than in oysters, but somewhat quicker than in cockles.

MARSHAL HALSTEAD, *Consul*.

BIRMINGHAM, ENGLAND, *February 28, 1905.*

OVERTASKING SCHOOL CHILDREN.

(*From United States Consul-General Guenther, Frankfort, Germany.*)

Dr. Otto Dornblueth, of Frankfort, a specialist in nervous diseases, writes against the practice of holding afternoon sessions in the public schools. In support of his position he points to the investigations instituted among 16,000 school children by the distinguished expert in school hygiene, Doctor Schmidt-Monnard, of Halle, who found that the number of sick among the children attending morning and afternoon sessions was by one-half greater than among children who attended sessions in the forenoon only. The investigations by Professor Koppmann, of Leipzig, led to the same conclusion.

Doctor Dornblueth favors a morning session of five hours, giving a resting pause of fifteen minutes at the end of each hour. He says that the afternoon sessions exhaust the vitality of the children, disturb their digestive organs, and tire their brains. From a medical standpoint afternoon sessions should be abolished. The afternoon hours

should be given to play, outdoor exercise, and physical training. The selfish motives of many parents in not wishing the children at home because they are bothersome and require supervision should not avail against a reform which is necessary and beneficial for the little ones. The doctor suggests the establishment of public retreats where the children who can not be supervised at home may spend the afternoon hours in the care of one or more suitable adults. He suggests that these retreats be provided with implements and material and that children desiring instruction in light handicrafts may be accommodated. This may give the initiative for training clever women and good mechanics.

Under the present system of instruction the pupils of the upper school classes attend forty-two and some forty-four hours per week.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 6, 1905.*

TIN EXPORTS FROM AUSTRALIA AND STRAITS SETTLEMENTS.

(From United States Consul-General Bray, Melbourne, Victoria.)

The shipments of tin from Australia and the Straits Settlements in 1904 show a material increase, as will be seen by the following statement covering the exports for the last five years:

Exports of tin from the Straits Settlements and Australia in the five years ended with 1904.

Year.	Straits Settlements.	Australia.
	Tons.	Tons.
1900.....	45,565	2,978
1901.....	50,352	3,276
1902.....	51,990	3,206
1903.....	52,171	4,157
1904.....	57,630	2,978

Owing mainly to the American demand the increasing supplies during the last few years have been on the whole readily absorbed. The total deliveries in London, Netherlands, France, and the United States in 1904 amounted 75,411 tons, against 76,156 tons in 1903, 77,045 tons in 1902, 71,115 tons in 1901, and 66,276 tons in 1900.

JOHN P. BRAY, *Consul-General.*

MELBOURNE, VICTORIA, *February 16, 1905.*

PRUNING FRUIT BUSHES.

Under date of March 22, 1905, United States Consul Howard D. Van Sant, of Guelph, Ontario, transmits a press bulletin issued from the Ontario Agricultural College relative to the pruning of fruit bushes.

Raspberries.—Remove the old canes after fruiting, thin out the weakest of the new canes, so that the row may not be so thick; head back the new canes to about $3\frac{1}{2}$ feet, so that good, strong lateral shoots may be developed near the ground. Strong laterals should be headed back about one-half. In some localities where there is danger of the canes being injured during the winter it may be best to leave the pruning until spring, but where there is no danger from injury from frost the work is as well done in the fall.

Blackberries or thimbleberries.—These should be pruned much the same as raspberries, except that the new canes should be left somewhat longer, 4 to $4\frac{1}{2}$ feet being considered about right. It is generally advisable to prune blackberries in the early spring, as the canes are liable to freeze back during the winter.

Gooseberries.—Without care gooseberries become a tangled mass, which prevents the proper development and the easy harvesting of the crop. The fruit is borne on 1, 2, and 3 year-old wood, mostly, however, on the 1 and 2 year-old wood. The aim should be to replace the 3-year-old branches with good healthy new shoots very early each season. Six main branches, two of which may be replaced annually, is a good base from which to build the frame of the bush. Head back the new growth about one-third and keep the bush just open enough to permit the easy harvesting of the fruit. If opened up too much there is danger of the fruit being injured by sunburning.

Red and white currants.—Currants are borne on the short spurs arising from the old wood and near the base of the new shoots. Two-year-old canes produce the finest quality of fruit, although some fine berries may be produced on the 3-year-old branches. Train the bush to 6 main stems, 2 of which may be removed each season and replaced by 2 vigorous young canes. All other new canes arising from the ground should be removed. Head back the 2 new shoots about one-half and all other new branches one-third. Keep the head of the bush open enough to permit of free circulation of air and to admit sufficient sunlight to ripen the fruit properly.

Black currants.—The treatment of black currants does not materially differ from that of reds. The fruit is borne on 1-year-old shoots arising from older branches. As the bushes grow larger and stronger than the reds, it is well to leave 8 canes, renewing 2 each season. Head back the growth severely to encourage the formation of many new spurs from the old wood for the production of fruit. Leave the head open enough to permit of free circulation of air and the entrance of sunlight to the center of the bush.

IMPORTS OF EXPLOSIVES INTO MEXICO, CENTRAL AND SOUTH AMERICA, AND THE WEST INDIES.

The following reports were prepared in compliance with a Department circular instructing the consular officers of the United States in Mexico, Central and South America, and the West Indies to report upon the importation of gunpowder, smokeless powder, high explosives, fuse, detonators, and other explosives into their respective districts and the countries from which such importations were made:

MEXICO.

(From United States Consul-General Barlow, Mexico City, Mexico.)

The importation into Mexico of gunpowder, dynamite, high explosives, fuse, and detonators has within the past three years shown a steady increase, due principally to the great activity in the development of new mineral lands, to the extension of railway lines, and to the building of new lines. Dynamite and black blasting powder form the principal parts of such imports.

I am informed upon good authority that about four years ago an agreement was entered into between the manufacturers of explosives in the United States and the manufacturers of explosives in Europe whereby this field belongs to American manufacturers, although a small amount of German explosive caps and fulminates are annually imported. About one year ago a company was organized, with a capital of \$3,000,000 Mexican (about \$1,325,000 United States currency), to engage in the manufacture of dynamite and other explosives at Lerdo, State of Coahuila, the principal stockholder in which is said to be the "French Dynamite Company," of France, one of the wealthiest firms in its line in the world. However, up to the present time, owing to lack of competent chemists, the new company has been unable to manufacture a commercial explosive and has put no product on the market. At Santa Fe, a small town in this Federal district, the Mexican Government has in operation a factory, where black powder and a small amount of smokeless powder for its army rifle are manufactured, but the Government still imports the major portion of the powder it requires, as well as practically all the explosives for its artillery.

Although the American manufacturers, by agreement with European manufacturers, control this market, each sells to Mexican consumers on his individual account. The imports of explosives of all classes

imported into Mexico for the years ended June 30, 1900, 1901, and 1902, and for the first six months of 1903 were as follows:

Imports of explosives into Mexico during the years ended June 30, 1900, 1901, and 1902, and the first six months of 1903.

Year.	Quantities.	Value.
	<i>Pounds.</i>	<i>Dollars.</i>
Charged and uncharged cartridges:		
1900	272,708	99,766
1901	354,853	129,102
1902	450,476	135,609
1903 (first six months).....	186,410	55,317
Fulminate caps for firearms:		
1900	26,134	10,550
1901	22,425	9,628
1902	38,560	16,560
1903 (first six months).....	23,466	10,346
Detonators of all classes for explosives:		
1900	52,426	28,031
1901	84,423	38,958
1902	119,472	59,546
1903 (first six months).....	66,726	35,591
Fuse:		
1900	424,651	63,833
1901	408,215	54,867
1902	732,915	96,817
1903 (first six months).....	463,217	60,373
Dynamite and other explosives not specified:		
1900	3,858,011	420,907
1901	3,952,626	374,879
1902	7,806,980	713,101
1903 (first six months).....	4,320,466	439,085
Mining powder:		
1900	1,597,387	85,881
1901	814,357	45,486
1902	1,183,222	66,306
1903 (first six months).....	2,001,237	91,613
Other classes of powder:		
1900	86,685	9,133
1901	46,440	6,105
1902	99,742	14,905
1903 (first six months).....	58,703	7,086
Gun cotton:		
1900	313	129
1901	143	135
1902	357	290
1903 (first six months).....	401	204

Total imports of explosives.

Year.	Quantities.		Value.
	Pounds.	Dollars.	
1900	6,318,310	718,530	
1901	5,683,482	659,160	
1902	10,431,684	1,163,134	
1903 (first six months)	7,120,626	699,565	

ANDREW D. BARLOW, *Consul-General.*

MEXICO CITY, MEXICO, *January 8, 1904.*

CHIHUAHUA.

(From United States Consul Mills, Chihuahua, Mexico.)

Large quantities of gunpowder, smokeless powder, high explosives, fuse, detonators, and other explosives are consumed in this district, mining being the chief industry. All the explosives consumed here

come from the United States, but as this is an inland consulate, I have no means of learning the quantities imported. The principal dealers in such articles at Chihuahua are Krakauer, York & Moye, Anderson & Scobell, and Ketelsen & Degeteau.

W. W. MILLS, *Consul*.

CHIHUAHUA, MEXICO, *February 2, 1904.*

CIUDAD PORFIRIO DIAZ.

(*From United States Consul Martin, Ciudad Porfirio Diaz, Mexico.*)

Common gunpowder is not much used here. There are, however, occasional shipments of small packages or kegs. What is called black or blasting powder is rather extensively employed, but its use is almost wholly confined to coal mines and railroad work. Smokeless powder is used for sporting purposes by huntsmen, gunning clubs, etc. Quite an amount is used, as game is plentiful in many parts of the district. High explosives, fuse, detonators, etc., are used extensively in mining for metals and to some extent in railroad work where heavy cuts are to be made, and in tunneling and all work where heavy blasting is to be done. There are large shipments of this character of explosives constantly passing into the district.

I have been able to get the facts in a general way only. I have made inquiries as to the source from which the supplies of explosive material is derived, and so far as I can learn all of the shipments are from the United States. I have not been able to learn that any explosives have been shipped into this market from any other source.

LEWIS A. MARTIN, *Consul*.

CIUDAD PORFIRIO DIAZ, MEXICO, *January 15, 1904.*

DURANGO.

(*From United States Consul Le Roy, Durango, Mexico.*)

The gunpowder, dynamite, fuse, detonators, etc., imported into this consular district have been brought in almost entirely for use in mining operations, and the trade has been confined to three or four concerns in the United States. California and Missouri companies have had practically a monopoly of the business, through their representatives on the spot. Imports of firearms and of cartridges and powder have been very limited in amount. Indeed, it is not very long since the Government carefully scrutinized such imports and that of black powder, following them from the border to their destination, until satisfied as to the uses to which they were to be put. The railroad, the telegraph, and the growth of industrial Mexico have put the fear

of revolutions in the background now; doubtless, however, the importation on a large scale of firearms or of explosives destined elsewhere than for a mining camp would lead to investigation on the part of the authorities. In general, the Government itself, through the war department, is the chief purchaser in Mexico of smokeless powder and of ammunition in other forms.

At various times during the past year and a half reports from this office have told of progress on the large new dynamite factory at Colton, near Gomez Palacio, in this State, and of the expectation that the Mexican Government would convert this new industry into a virtual monopoly by the imposition of prohibitive consumption charges upon dynamite and explosives in general. The factory began its operations early last fall, but had not until recently accumulated a sufficient supply of dynamite, designed especially for the mining industry, in the various centers of deposit established in the Republic, so that no change in the law was made. But, by a law taking effect March 1 last, a consumption tax in the form of internal-revenue stamps, to the amount of 21 cents Mexican per kilogram (about 4½ cents per pound in United States currency), was levied on dynamite and explosives imported into the country or manufactured herein. Two years ago, however, a special concession was granted to the company which has built the factory at Colton (the Mexican National Dynamite and Explosives Company), and its operations will be taxed under that concession, which virtually insures the payment by the company of the sum formerly paid by foreign dynamite imported through the customs at the then existing rate of customs tariff (3 cents Mexican per kilogram). This gives the concern a virtual monopoly, the new internal impost being prohibitive. All dynamite sold in the country, whether produced or imported, will be stamped in accordance with certain elaborate provisions for the purpose.

The new factory is credited with a capacity of 3,000,000 kilograms (6,600,000 pounds) of dynamite and 1,000,000 kilograms (2,200,000 pounds) of black powder, and it is stated that branch factories will be built on the west coast of Mexico, near Mazatlán and near Mexico City.

Because of the prohibitive tax levied in connection with the concession given to this new "Compañía Nacional de Dinamitos y Explosivos," it has been generally called the "Government dynamite monopoly." The statement, however, that the Government is directly interested arises from a misunderstanding. The Government will, it is said, undertake to erect at Colton, in connection with the new enterprise, a large arsenal for the manufacture and storage of ammunition. Doubtless this means that later on smokeless powder and rifle and revolver cartridges may be made here. It has, at least, been so assumed, and has also been reported that, in time, the manufacture of rifles and small arms will be undertaken. If so, no announcement of such an intention has been made.

It is in this way, and in connection with the levying of taxes on explosives sufficiently high, under ordinary conditions, to give the new enterprise a monopoly, that it may be called a quasi-Government concern. It is, however, a privately organized and capitalized company. The "Compañía Industrial Jabonera de la Laguna, S. A.," the principal industrial organization of this State, is reported to hold in its own name the largest block of stock, and other large holders are the "Société Centrale de Dynamite," of Paris, and the "Compañía Financiera por la Industria en Mexico," of Mexico City. Among the directors are Porfirio Diaz, jr., and Julio Limantour, brother of the secretary of finance of Mexico.

The announcement of the prohibitive tax a year and a half ago led to the entertainment of apprehensions by those engaged in the mining industry lest the price of dynamite should be increased when once the monopoly was established. The fact, however, that the Government is to some extent in partnership with the large new factory in this State, since it expects to draw upon it for its powder and other explosives for the army and navy, and is thus closely identified with the monopoly created by its own act, has quite generally been regarded as an assurance that the interests of the greatest industry of the country, mining, would not be allowed to suffer. The intervention of the Government has been seen in the promulgation of a schedule of prices for dynamite at the respective depositories established as sales agencies of the new factory. Speaking generally, there has been a slight reduction in the prices charged for the grades of dynamite ordinarily used in the mining industry, particularly when it is bought in carload lots. It is pointed out also, as further comfort for the miners, that they have all along been in fact, if not in theory, in the control of a dynamite monopoly (in the United States), and that they will now have the advantages to be derived from a monopoly subject to governmental regulations. The objection that the new factory can not readily supply the mining districts on the western slope of the Sierra Madre, especially in Sonora and Sinaloa States, has been met by a provision of law permitting the new company to import under its concession (free of the special-consumption tax) dynamite to supply the needs of those segregated portions of the country, in case sufficient supplies are not at any time at hand in those depositories.

The cost of production may be more or may be less than in the United States. Labor is, of course, cheaper, but fuel is more costly. Sulphur is available close by these works in large quantities, and an American company is now engaged in working over, under contract, the dump of very large sulphur mines by the side of the track running from Colton station to the new dynamite works. These mines, abandoned some time ago, have again become valuable. Potash and nitrate of soda, on which there is a small duty, must be imported. If the cost

of production proves to be greater, it may be offset by the cost of transportation hitherto paid on explosives shipped from Los Angeles and St. Louis into Mexico.

This new consumption tax does not apply to common black powder for mining, fireworks, hunting, etc., composed only of sulphur, carbon, and nitrates of soda and potash and lacking nitroglycerin, chlorate of potash, or other chemical explosive substances. In time these may be brought under the control of the new monopoly, but not yet, at least.

JAMES A. LE ROY. *Consul.*

DURANGO, MEXICO, *April 1, 1905.*

MAZATLAN.

(*From United States Consul Kaiser, Mazatlan, Mexico.*)

All explosives imported into Mazatlan are manufactured in the United States, and are mostly shipped from San Francisco, Cal., in sailing vessels, freight charges generally prepaid.

Gunpowder is imported at rare intervals, and then only in small quantities, as the gunpowder commonly used here is made by the natives. Smokeless powder is not imported here. High explosives are handled by the following firms: Juan C. Farber Hijos; Wohler Bartning, Sucesores, and Herds. P. Echeguren y Cia.

According to information kindly supplied by these gentlemen the imports of explosives at Mazatlan during the year ended June 30, 1903, were valued as follows: Nitroglycerin, \$60,181; fuses, \$5,670; caps, \$10,367.50; total, \$76,218.50.

LOUIS KAISER, *Consul.*

MAZATLAN, MEXICO, *December 8, 1903.*

MONTEREY.

(*From United States Consul-General Hanna, Monterey, Mexico.*)

From the best information I can obtain, gunpowder, dynamite, and blasting powder imported from the United States into this district in 1903 had a value of \$643,000. A comparatively small amount was gunpowder such as is used for ordinary hunting purposes, the principal part being blasting powder and dynamite used almost exclusively in the mines throughout this part of Mexico. Monterey, being a distributing city and supplying a large district from its jobbing houses, shipped a large part of this powder to other localities.

I am informed that nearly all explosives used in Mexico come from the United States, and that the opening of new mines and the building

of new railroads is liable to increase the demand. There are no powder mills or dynamite factories in this district. There has been considerable talk about establishing a powder mill and dynamite factory near Monterey, which it is generally considered would be a valuable property.

PHILIP C. HANNA, *Consul-General.*

MONTEREY, MEXICO, *March 10, 1904.*

NOGALES.

(From United States Consul Morawetz, Nogales, Mexico.)

Practically all explosives used in the State of Sonora are imported from the United States, as is shown by the following table of imports. The information was furnished by the custom-houses throughout this consular district, and as the duty is assessed according to weight and not according to value, the latter could not be readily obtained:

Imports of explosives into the State of Sonora, Mexico, for the year ended June 30, 1903.

Explosives.	Whence imported.			Total.
	United States.	Germany.	China.	
	Pounds.	Pounds.	Pounds.	Pounds.
Caps	35	47		82
Cartridges (loaded)	3,182			3,182
Detonators	8,400	44		8,444
Fuse	65,999	562	3,969	70,530
Powder (blasting)	527,486			527,486
Total	605,102	653	3,969	609,724

ALBERT R. MORAWETZ, *Consul.*

NOGALES, MEXICO, *December 16, 1903.*

PARRAL.

(From United States Consular Agent Long, Parral, Mexico.)

During the past year there were imported into this district the following quantities of explosives: Blasting powder, 123,200 pounds; caps and detonators, 1,120,000; fuse, 2,508,000 feet; black and nitro sporting powders, 100 pounds. All were from the United States, with the exception of 100,000 detonators from Germany. The very small quantity of sporting powder imported is attributable to the fact that the use of the shotgun is almost unknown to Mexicans, and the few foreigners who use shotguns buy their ammunition already prepared. Of the fixed ammunition used in the district, all is imported from the United States with the exception of a very small quantity

imported from Germany and Belgium for use in arms manufactured in those countries, for which ammunition is not obtainable in the United States, and a limited amount of rifle cartridges manufactured in the country for old model Winchester rifles.

JAMES J. LONG, *Consular Agent*.

PARRAL, MEXICO, *February 25, 1904.*

TUXPAM.

(*From United States Consul Lespinasse, Tuxpam, Mexico.*)

The demand for gunpowder in this consular district is not large and the quality used is of inferior grade. It is almost exclusively employed for hunting purposes, and is shipped in 25-pound tin kegs, selling from \$20^a to \$25 per keg, according to quality. The retail price is \$1.25 to \$1.50 per pound Mexican money. With the exception of a small quantity of paper shells for breechloaders, no other explosives are imported into this consular district. The supply comes from the United States.

The natives would use a better grade of powder if merchants here would sell it, but profits on the inferior grades sold are large, and the few who deal in the article prefer to control the business under the existing remunerative conditions. The demand is increasing steadily and buyers insist on having a better grade.

The total value of explosives imported last year was \$3,200 gold, and, judging from the present outlook, the amount will be almost doubled next year.

A. J. LESPINASSE, *Consul*.

TUXPAM, MEXICO, *December 16, 1903.*

VERACRUZ.

(*From United States Consul Canada, Veracruz, Mexico.*)

The statistical information obtained from the authorities at this port, covering the importation of gunpowder and other explosives, is incomplete, owing to the fact that both arms and explosives are included under the same heading, and values only are given.

The records show that during the fiscal year 1903 the imports of arms and explosives at Veracruz amounted to a total value of \$297,641 Mexican (\$139,844, United States), credited to the several countries as follows:

^aThe Mexican dollar equals 46.8 cents United States at date of writing.

Imports of firearms and explosives at Veracruz, Mexico, in the year ended June 30, 1903.

Whence imported.	Value.	
	Mexican currency.	United States currency.
United States	\$56,335	\$26,477
Great Britain	8,898	4,182
Italy	632	297
Germany	137,340	64,550
France	36,446	17,130
Spain	43,308	20,352
Belgium	11,807	5,540
Austria	1,829	860
Switzerland	536	252
China	415	195
Total	297,541	139,844

Inquiries were made of the several importing houses in this city, with the result that only two were found dealing in explosives. At the steamship offices the fact was elicited that of all the lines touching at this port, only two, the New York and Cuba Mail Steamship Company (Ward Line) and the Hamburg-Amerika Line, carry explosives. None of the other lines will accept such as freight.

The New York and Cuba Mail Steamship Company during the six months ended December 31, 1903, brought to the port of Veracruz 2,121 kegs of black powder, of which quantity 50 kegs were reshipped to Tuxpam and 350 kegs to Laguna. Both of these places are outside this consular district.

During the same period the vessels of the Hamburg-Amerika Line discharged at the port of Veracruz the following explosives, all from Hamburg, Germany: 1,700 cases of dynamite, weighing 106,590 pounds, and 20 cases of detonators, weighing 902 pounds.

WM. W. CANADA, *Consul.*

VERACRUZ, MEXICO, *February 16, 1904.*

CENTRAL AMERICA.

BRITISH HONDURAS.

(From United States Consul Avery, Belize, British Honduras.)

The importation of powder into this colony is largely regulated by the orders received from neighboring republics, as of the total quantity imported in 1902, viz, 20,337 pounds, all but 7,745 pounds was reexported. The conditions ruling as to the sale of powder during the past two years have been governed by the following proclamation of the governor, and though it expired by limitation on November 24, I am informed that it will be renewed on practically the same lines, and there is little probability of an immediate increase or decrease in the demand for powder:

PROCLAMATION.

Whereas by chapter 4 of "The consolidated laws" of British Honduras as amended by ordinance No. 21 of 1894, entitled an ordinance to amend chapter 4 of "The consolidated laws," the governor is enabled and empowered from time to time to issue our royal proclamation prohibiting for such time or times as to him shall appear necessary or proper, and as the exigency of things may require to be exported by land or sea from the said colony or carried coastwise therein arms, ammunition, and gunpowder, military and naval stores, and also any articles which he shall judge capable of being converted into or made useful in increasing the quantity of military or naval stores, provisions, or any sort of victual which may be used as food by man without a license first had and obtained under the hand of the governor, or unless such other regulations and instructions be complied with as shall be declared in such proclamation;

And whereas circumstances have arisen which render it advisable that the power so conferred should be exercised so far as relates to arms, ammunition, and gunpowder:

We do hereby therefore prohibit for the period of two years, to commence and be computed on and from the day of the date hereof to be exported by land or sea from this colony arms, ammunition, and gunpowder without a license first had and obtained under the hand of the governor unless in compliance with the rules and regulations following, that is to say:

(1) Any person or firm may, subject to the proviso hereinafter contained in (3), without any license, export by land or sea in any one period of twenty-eight successive days not more than 6 guns, 200 cartridges, 150 pounds of powder, and 250 pounds of shot.

(2) The collector of customs in the Belize district, or the district commissioner in any other district, may, by license under his hand, authorize any person or firm, subject to the proviso hereinafter contained in (3), to export within twenty-eight days from the date of license to any State or country named in such license not more than 12 guns, 400 cartridges, 300 pounds of gunpowder, and 500 pounds of shot.

(3) Provided that the two above-written rules and regulations shall not extend or apply to, and nothing contained therein or done thereunder shall protect, any person or firm exporting any arms, ammunition, or gunpowder from this colony into the Republic of Mexico.

Powder is landed at this port under the direction of a customs officer and is conveyed direct from the vessel to the magazine located about a mile up the Belize River, and is withdrawn only upon the order of the collector of customs. During the last nine months of 1903 the entry of powder at this port has been 6,502 pounds from Great Britain and 307 pounds from the United States. While it seems to be admitted that the United States powder is the best, there is no great demand for the best, and of the quality used here the price in England is much lower. The duty of 5 cents per pound is the same from either country, but the freight from Liverpool is lower than from the Gulf ports, the only places in the United States with which this colony has direct

communication. It is unlikely that our trade in this commodity will be much increased, for, even if doubled, it would amount to less than \$4,000, the value of last year's imports being but \$1,780.

W. L. AVERY, *Consul*.

BELIZE, BRITISH HONDURAS, *December 2, 1903.*

COSTA RICA.

(*From United States Consul Caldwell, San José, Costa Rica.*)

During the year 1903 the imports of explosives into Costa Rica were as follows: Dynamite, 600 cases; caps, 8 cases; fuse, 2 cases; powder, 19,445 pounds; cartridges, 314 pounds; fulminants, 1,192 pounds.

All the foregoing came from the United States. All dynamite imported into Costa Rica comes from California. Only the very best quality finds a sale here and it is sold at a very moderate profit.

The importation of dynamite in 1903 was considerably below the average, owing to the fact that in the earlier months of the year the demand was supplied from the cargo of a wrecked German steamer lost on the Pacific coast late in the year 1902.

JOHN C. CALDWELL, *Consul*.

SAN JOSÉ, COSTA RICA, *January 7, 1904.*

GUATEMALA.

(*From United States Consul-General Winslow, Guatemala City, Guatemala.*)

After requesting the proper authorities by mail for the information sought and waiting due time for a reply, I was informed that the Government considered all matters pertaining to the importation of gunpowder, high explosives, etc., strictly confidential, and could get no official information regarding the subject. I learn from other sources that the importation of gunpowder, smokeless powder, high explosives, etc., is prohibited, unless by special permission of the Government, which is very rarely given, and then hedged about by numerous restrictions. So far as I am able to learn, all the gunpowder, high explosives, etc., brought into this country come from the United States, being principally shipped from San Francisco. They are all imported free of duty.

ALFRED A. WINSLOW, *Consul-General*.

GUATEMALA CITY, GUATEMALA, *April 5, 1904.*

HONDURAS.

TEGUCIGALPA.

(From United States Consul Moe, Tegucigalpa, Honduras.)

A large part of the present imports of gunpowder and high explosives is used in the extensive work of the south coast road construction. This highway is of necessity carried through the most mountainous section of Honduras, and as the road is built for wagon traffic and macadamized, an enormous amount of stone is required. This can only be procured by blasting, and as the width of the road is from 7 to 10 meters (23 to 33 feet), mostly run along the mountain sides, considerable excavation and blasting is necessary to make the requisite space of roadway.

There are a number of mining enterprises in Honduras, all of which require much dynamite and other blasting material in their tunneling work. Of these mining companies, the New York and Honduras Rosario Company imports a very large percentage of the total.

All material of this nature is freighted on pack mules, which pass over the steep and narrow mountain trails for a distance of 50 miles on their way to the mines. The wide road recently completed between Tegucigalpa and La Venta, a distance of 50 miles, offers much safer and more expeditious transit, and when the extension of the road is finished to the south coast there will remain 25 miles only of trail out of a total of 100 from the Pacific to the mines.

It is not possible to obtain data concerning the imports of gunpowder and other explosives used by the Government for military purposes, but it can be stated that all such imports come from the United States.

The imports of gunpowder, etc., into the Republic of Honduras, via Amapala, from July 1, 1902, to June 30, 1903, were as follows: Dynamite, 2,380 boxes (119,000 pounds); blasting powder, 540 kegs (16,000 pounds); caps, 21 boxes (105,000 caps); fuse, 113 boxes (565,000 feet).

ALFRED K. MOE, *Consul.*

TEGUCIGALPA, HONDURAS, *January 4, 1904.*

PUERTO CORTES.

(From United States Consul Alger, Puerto Cortes, Honduras.)

The sale of gunpowder in Honduras is a Government monopoly. All powder imported on the Atlantic coast comes in at Puerto Cortes and does not exceed 10,000 pounds per year. It comes from England, via British Honduras. Blasting powder and dynamite are the only other explosives used. The imports are entered, by permission of the Government, by mining companies and those engaged in building

roads and canals, and amount to about 5,000 pounds of blasting powder and 10,000 pounds of dynamite a year; they come direct from New York.

WM. E. ALGER, *Consul*.

PUERTO CORTES, HONDURAS, *December 3, 1903.*

PANAMA.

BOCAS DEL TORO.

(*From United States Consular Agent Herbert, Bocas del Toro, Panama.*)

Gunpowder and dynamite in small quantities are imported into this district from the United States, principally for use in hunting and fishing. The exact quantity annually imported can not be accurately given, it being impossible to procure reliable data, but it is definitely known that the quantity is small. The inhabitants of this district are engaged chiefly in cultivating bananas and have little use for explosives, excepting for a very small part of their time which may be spent in hunting and fishing.

CHAS. T. HERBERT, *Consular Agent*.

BOCAS DEL TORO, PANAMA, *December 18, 1903.*

COLON.

(*From United States Consul Malmros, Colon, Panama.*)

The imports of explosives at Colon during the fiscal year 1903 were as follows:

From France.—Dynamite, 2,500 tubes of 10 pounds each, for blasting purposes.

From the United States.—Gunpowder, 40,000 pounds, and 900 cases of fuse, each case containing 10 rolls of 10 feet each.

No other high explosives, detonators, etc., were imported during the year.

OSCAR MALMROS, *Consul*.

COLON, PANAMA, *December 28, 1903.*

WEST INDIES.^a

BRITISH WEST INDIES.

NASSAU, BAHAMAS.

(*From United States Consul Potter, Nassau, Bahamas.*)

The imports of gunpowder into the Bahamas during the last three years amounted to 4,572 pounds, valued at \$980, of which 4,272 pounds

^a In addition to the reports herewith printed for the West Indies, reports were received for the following places, stating that no considerable quantity of explosives was sold there. British West Indies: Bermuda, Jamaica, and St. Christopher; Danish and Dutch West Indies, and Haiti.

came from the United States and the remainder from Great Britain. This powder is exclusively for sporting purposes, and is never used for blasting. The import duty is 12 cents per pound.

It is not possible to ascertain what quantity of dynamite and other high explosives is imported, as no record is kept of them as such. They appear in the blue book under the heading "Unenumerated," and are subject to an ad valorem duty of 20 per cent.

The United States vice-consul, who imports considerable for use on his plantation, tells me that probably the annual imports do not exceed 4 tons, imported entirely from Florida ports in sailing vessels, and the first cost is from 14 to 18 cents per pound, according to strength and place of shipment. Two grades, with 40 and 60 per cent of nitro-glycerin, are in use. They are employed in breaking up for agricultural purposes the rock of which the islands are composed. The disintegrated rock is found to be wonderfully fertile when mixed with a small proportion of older weathered soil. This system of fertilizing is of very recent adoption, the people here having used it after the building of the Florida East Coast Hotel, all the grounds of which were in this way converted from a field of barren rock into a beautiful garden.

A second use for the dynamite is in breaking up the heavy metal of the many wrecks found on the coasts of these islands, which metal is shipped to the United States for resmelting. The imports of fuse and detonators are, like dynamite, unascertainable, as they are classified as electrical supplies, but the amount is insignificant.

The local regulations for the storage of explosives are at present very stringent, and until they are relaxed, it is not likely that imports will increase. All the dynamite used is of American manufacture.

JULIAN POTTER, *Consul.*

NASSAU, BAHAMAS, *December 19, 1903.*

CUBA.

CIENFUEGOS.

(*From United States Consul Baehr, Cienfuegos, Cuba.*)

The importation of explosives through this port is confined entirely to gunpowder, revolver cartridges, and caps for the refilling of cartridges. It is insignificant, being principally to meet the wants of hunters and sportsmen.

The laws governing the importation of explosives into Cuba are very stringent, the local importer being obliged to obtain a permit from the President of the Republic, through the governor of the province. The necessity of complying with this regulation is very onerous to the

importer, much time elapsing after a permit is asked for before it is granted, and the articles in question perhaps lying at the custom-house awaiting the necessary clearance.

I inclose statistics furnished me by the collector of customs at this port, covering the imports of explosives through this port for the six months ended November 30, 1903, all from the United States:

Value of imports of explosives at Cienfuegos, Cuba, and duty thereon, in the six months ended November 30, 1903.

Kind.	Value.	Duty.	Kind.	Value.	Duty.
Revolver cartridges	\$399	\$195	Gun caps and empty cartridges..	\$81	\$37
Revolver cartridges, empty	23	11	Gun cartridges.....	9	5
Revolver caps	208	43	Rifle and revolver caps	11	6
Revolver bullets.....	476	208	Bullets.....	22	9
Gunpowder	151	84			
Gun caps	93	22	Total.....	1,473	620

MAX J. BAHR, *Consul.*

CIENFUEGOS, CUBA, *December 2, 1903.*

SOUTH AMERICA.

BRAZIL.

BAHIA.

(From United States Consul Furniss, Bahia, Brazil.)

The use of gunpowder in this district is quite limited, being confined almost entirely to the making of fireworks, which play a most important part in the various church festivals, etc. There is an abundance of game in Bahia and surrounding States, but no effort is made to hunt, either for pleasure or as a livelihood, and very little powder is thus used. The small amount of game killed is entirely for personal consumption. To such an extent is this true that I have never seen game for sale in the markets here, nor can I hear of such having been offered. It is impossible to estimate the quantity of powder used for fireworks, the material being made almost exclusively in Brazil. The powder used here is either of crude local manufacture or comes from Pernambuco,^a where there is a large factory which makes a fair grade of explosive. That used here by the Government for saluting also comes from Pernambuco.

A small amount of powder is used in the mining districts for blasting purposes, but it would hardly figure in any calculation. The foreign powder imported is of one brand, which has been in use here for many years. It is made in England, but frequently arrives by

^a Consul Sewell, of Pernambuco, reports that little or no explosives are imported or sold in his district.

way of Hamburg, having been sent to that free port for direct embarkation. This powder can not compete in price with the best Brazilian article because of the high duties exacted, coupled with the expenses of shipment, which make it cost here almost three times its original cost in Europe. The native product can be sold at a large profit much cheaper than the imported article, and it is sufficiently good for the use to which it is put. No smokeless powder comes here.

In 1903 the amount of foreign manufactured powder arriving here was 1,772 kegs of 25 pounds each and 58 cases of 100 pounds each. The cases contained one-half pound and 1-pound tins, which is the form desired by users of this quality of powder.

High explosives, detonators, and fuses are all imported, and until last year came from one English firm which has for some years kept a deposit here. The exception mentioned was the arrival of 85 cases from Germany. The sale of high explosives is very limited. Its use, which is confined almost entirely to fishing, nearly trebled in 1903 as compared with 1902, due chiefly to the reduction in price. A case of high explosives containing 500 cartridges, weighing 50 pounds net, is purchased by the retail merchant for \$36, fuse at 72 cents for 24 feet, and detonators \$2.88 per 100 for No. 6 and \$1.68 for No. 3. Fishing bombs containing a stick of explosive and a detonator, to which is attached from 3 to 5 inches of fuse, are prepared from this stock. Such bombs are sold at 24 cents each, which gives a large profit to the retailer. The fishing bombs are used all along the coast and even in this harbor. There is a law against their use, but violators are seldom apprehended. The method consists in lighting the fuse and pitching the cartridge into water thought to contain fish, so timing the throwing that the bomb will explode when only a couple of feet below the surface, where the inquisitive fish will have rushed just in time to receive the concussion. I have seen great numbers of fish killed at one time by this method. Accidents through the careless use of high explosives in fishing are quite common.

During the last few months there have been a few cases of high explosives used for mining, more particularly in the mica industry, which has recently been opened by foreigners, but there is little probability of this bringing about any marked increase in the sale. The sale of high explosives for the past three or four years has averaged about 35 cases a year.

The duty on powder is 31 cents per kilo (2.2 pounds), with an abatement of 10 per cent in weight if in barrels or cases, but gross weight if in tins, pasteboard boxes, etc. The duty on dynamite and other high explosives is 31 cents per kilo, with an abatement of 10 per cent if in cans. Fuse pays 29 cents per kilo and detonators \$1.08.

H. W. FURNISS, *Consul*.

BAHIA, BRAZIL, *February 13, 1904.*

BRITISH GUIANA.

(From United States Consul Moulton, Demerara, British Guiana.)

Importations of gunpowder and other explosives are designated for customs purposes here as (1) dynamite for blasting; (2) gunpowder and fuse for blasting; (3) gunpowder and explosives, other than fireworks, not for blasting.

Imports of powder and fuse into British Guiana, 1900 to 1903.

Year.	For blasting.	Not for blasting.	Total.
	Pounds.	Pounds.	Pounds.
1900.....	4,786	5,368	10,154
1901.....	2,686	3,987	6,673
1902.....	866	5,500	6,366
1903.....	2,751	5,966	8,717
Total	10,539	20,811	31,350

With the exception of 235 pounds of powder and fuse for blasting, imported from the Netherlands in 1902, the whole of the foregoing was imported from the United Kingdom. No dynamite was imported, and very little is used in the colony. Smokeless powder is not used.

The duty on explosives is as follows per pound: Dynamite, containing more than 75 per cent of nitroglycerin, 6 cents; containing less than 75 per cent of nitroglycerin, 4 cents; powder and fuse for blasting, 1 cent; gunpowder, not for blasting, 20 cents; fireworks, 40 cents.

GEO. H. MOULTON, *Consul.*

DEMERARA, BRITISH GUIANA, *December 29, 1903.*

CHILE.

(From United States Consul Mansfield, Valparaiso, Chile.)

The total amount of gunpowder imported into Chile in 1902, the latest available statistics, was 10,350 pounds, valued at 6,258 pesos (\$2,284.17). The imports were divided among the following countries: Great Britain, 4,254 pounds, 3,132 pesos (\$1,143.18); Germany, 4,078 pounds, 2,360 pesos (\$861.36); France, 713 pounds, 526 pesos (\$192.03); United States, 1,304 pounds, 240 pesos (\$87.60).

The importation of fuse for the year amounted to 196,048 pounds, valued at 63,127 pesos (\$23,041.35), reported from the following countries: Germany, 108,802 pounds, 35,034 pesos (\$12,787.90); Great Britain, 69,052 pounds, 22,235 pesos (\$8,115.78); Belgium, 10,389 pounds, 3,344 pesos (\$1,220.06); United States, 7,804 pounds, 2,514 pesos (\$917.61).

The imports of dynamite amounted to 440,200 pounds, valued at 283,499 pesos (\$103,477.14), which was imported from the following countries: Germany, 237,876 pounds, 153,202 pesos (\$55,918.73); Great

Britain, 201,783 pounds, 129,948 pesos (\$17,431.02); United States, 541 pounds, 349 pesos (\$127.39).

The imports of detonators for the year amounted to 27,152 pounds, valued at 74,927 pesos (\$27,348.36), imported from the following countries: Great Britain, 13,393 pounds, 36,959 pesos (\$13,490.04); Germany, 13,207 pounds, 36,441 pesos (\$13,300.97); France, 443 pounds, 1,224 pesos (\$446.76); Belgium, 59 pounds, 165 pesos (\$60.22); United States, 50 pounds, 138 pesos (\$50.37).

Imports of explosives into Chile from the several countries in 1902.

Country.	Quantities.	Value.
	Pounds.	Dollars.
Germany	363,963	82,868.96
Great Britain	288,482	70,180.02
Belgium	10,488	1,240.28
United States	9,699	1,182.97
France	1,156	638.79
Total	673,758	156,151.02

R. E. MANSFIELD, *Consul.*

VALPARAISO, CHILE, *February 4, 1904.*

ARICA.

(From United States Consul Lutz, Arica, Chile.)

The quantities and values of high explosives, etc., imported into this district during the calendar years 1902 and 1903, the countries of origin, and the rates of customs duties levied are set out in detail in the following table:

Imports of high explosives into Arica, Chile, 1902 and 1903.

Kind.	Duty.	Whence imported.	Quantity.	Value.
			Pounds.	Dollars.
Dynamite	Free	United States	22,088	4,685.33
Fulminates for dynamite	do	do	198	180.00
Fuses for mining	do	Great Britain	1,100	1,000.00
		United States	720	76.32
		Germany	19,463	2,060.33
		Great Britain	62	6.66
		Chile	4,180	443.33
Fulminates	35 per cent	United States	106	96.00
		Belgium	44	40.00
		Germany	123	112.00
		Great Britain	97	84.00
Munitions for firearms	do	United States	3,705	903.00
		Germany	238	43.33
		Italy	4,006	878.66
		France	2,457	600.66
Signal rockets, etc.	do	China	16,245	2,131.33
		Germany	1,914	272.66
		Peru	2,009	286.00
Total			78,755	13,896.62

^aProducts of foreign origin introduced from Chile are treated at this port as though they were of direct importation from the country of origin.

JOHN W. LUTZ, *Consul.*

ARICA, CHILE, *January 30, 1904.*

ECUADOR.*(From United States Consul-General Dietrich, Guayaquil, Ecuador.)*

The importation of all high explosives into the Republic of Ecuador is strictly prohibited, except upon special permission granted by the Government. This permission, however, is readily granted to mine owners, railway contractors, road builders, and for all other work requiring explosives. The party requiring the explosives must make his application to the Government on a prescribed form, showing for what purpose they are required and the quantities needed.

The explosives pay no import duty. The sale of gunpowder is strictly a Government monopoly. The importation of fuse and caps is allowed, the former paying 25 cents and the latter 50 cents per kilo (2.2 pounds), American currency, import duty, on gross weight.

In 1901, during which year the heaviest work on railroad building was done here, the railroad company brought in some 300,000 pounds of blasting powder, 195,000 pounds of dynamite, and 2,000 pounds of fuse, the larger part of these coming from the United States. During the same year 7,000 pounds of detonators, which includes all gun caps, were imported, but there are no statistics to show whence they came.

In 1902 the Government imported from the United States 17,200 pounds of gunpowder and 5,600 pounds of detonators, but no other explosives were imported that year.

During the first ten months of 1903 the Government imported from England 40,000 pounds of gunpowder, and from the United States 5,500 pounds of blasting powder and 2,500 pounds of fuse. There are no records to be found here showing any further imports of explosives during this time.

I may add that the Government sells the gunpowder here at the equivalent of 80 cents American gold per pound.

HERMAN R. DIETRICH, *Consul-General.*

GUAYAQUIL, ECUADOR, *December 16, 1903.*

VARIATIONS OF VALUE OF GOVERNMENT SECURITIES.

*(From United States Consul Haynes, Rouen, France.)***PART 1.**

Some time ago there appeared in a leading financial journal of France. *Le Rentier*, Paris, written by its founder and director, the eminent financial economist, Alfred Neymarck, a series of articles headed "Variations of market values and of interests on State securities."

In the beginning of the articles the author confines himself to the discussion of French, English, and German securities. The first of

these, French 3 percents, "rentes," he remarks, are quoted at 98.5, thus yielding 3.04 per cent; the English consolidated 2.5 percents are quoted at 88, yielding 2.84 per cent, and the German 3 percents are quoted at 90, yielding 3.33 per cent. "Certainly these three great European States," he says, "offer stockholders an absolute security. There is no questioning the regular payment of the interest on the debts of these countries which have never failed to fulfill their engagements."

The author then asks why should the interest and market values of the securities of these three countries be different—why should German 3 percents yield 3.33 per cent, French rentes only 3.04 per cent, and English consols only 2.84 per cent?

Before giving the real causes of these differences M. Neymarck first pronounces as groundless the explanations usually given for these differences, that the budget and debt of England is less than that of France and Germany, and that the debt per capita of the three countries is greatest in France, less in Germany, and least in England. "If these reasons were tenable," he says, "German stocks ought to be almost equal to English, and consequently considerably above French stocks." As far as the debt per capita is concerned he attaches no value whatever to it, claiming that a country with a small debt can be very poor and have small resources and revenues while, on the other hand, another with a heavy debt can be rich and prosperous, possess numerous and important resources, and easily pay heavy taxes. The latter, apparently owing the more, will offer safer security because the productivity of its work and its thrift will be greater. "The Republic of Liberia possesses the smallest debt, both total and per capita, of any country in the world. It owes about \$482,500; its budget is more than this; its receipts exceed its expenses by \$6,000; and it has a population of 1,500,000, the per capita debt being thus some 31 or 32 cents, while in England, Germany, and France the debt is many hundred times greater. Who would pretend, however, to assert that the Republic of Liberia is in a better situation than England, Germany, or France? Certainly, no one."

To further disprove that the debt per capita causes differences in the value of State stocks and the interests thereon, he cites the response given by M. Georges de Laveleye to the carefully studied report made some fifteen years ago by the financial diplomat, Sir Vincent Caillard. In the report of the latter the resources of Turkey, Roumania, Bulgaria, and other oriental countries were compared and the conclusion reached that Bulgaria had more credit than any of the others for the reason that its public debt per capita was least. M. Georges de Laveleye in reply also made a comparison, but between Bulgaria, France, and England, according to which, if the argument of the debt per capita were reliable, Bulgaria possessed five times the credit of England and ten times that of France.

M. Neymarck proceeds to give what he believes the true causes of the differences of the values and interests on governmental securities of States possessing the same credit and inspiring the same confidence. They are three:

1. The dependence or independence of the borrowing State—national or exterior market for bonds.

2. Diversity of stocks in the same country—unity or variety of State stocks.

3. The nature and quality of the buyers and owners of State stocks—that is, the organization of public and private credit in the divers countries, public customs in making financial investments, and the dependent or independent situation of the borrowing State as regards its lenders, national or foreign.

By these three tests the author determines the financial and economic conditions of England, France, and Germany, after which he applies them to Belgium, Netherlands, Sweden, Norway, Denmark, and Switzerland; then to Italy, Austria-Hungary, Russia, and Roumania, and finally to Spain, Portugal, Bulgaria, Servia, Greece, and Turkey.

The following is a translation of what he says under each head:

DEPENDENCE OR INDEPENDENCE OF THE BORROWING STATE—NATIONAL OR EXTERIOR MARKET—IN ENGLAND, FRANCE, AND GERMANY.

First of all, the State securities of these three countries bear a striking similarity—they are altogether national. The manipulation of English national securities is in London; of French stock, in the French bourses, and of German securities, in Germany. These three countries manage their own national markets, depending upon no one. If the owner of stock finds it advantageous to negotiate in different markets, a State, on the contrary, from the point of view of national credit, finds it more profitable to be its own master in its own home.

DIVERSITY OF STOCKS IN THE THREE COUNTRIES—UNITY OR VARIETY OF STATE STOCKS.

England.—In England the Consolidated is the stock, par excellence. For many years it was the Consolidated 3 percents, afterwards it became the 2.75 percents, and now is the 2.5 percents. Besides the Consolidated 2.5, there is the Local Loans stock 3 percents and the London County 3 percents and 2.5 percents, but these absorb but a small amount of capital. With the exception of stocks of some of the large colonies or possessions, Canada, India, Jamaica, Manitoba, Natal, New Zealand, New South Wales, Quebec, Queensland, South Australia, Tasmania, Transvaal, Victoria, West Australia, etc.—stocks of 3, 3.5, 4, 4.5, and 5 per cent (as the debts of Manitoba and New Zealand)—there exists few competing State securities, direct or indirect, outside the Consolidated. Unity of national stock, represented by the Consolidated 2.5 percents, exists in England.

France.—France, after having a great variety of rentes for nearly three-quarters of a century has, since the last successful conversion of

the 3.5 percents by the minister of finances, M. Rouvier, adopted a single type of rente, the 3 percents perpetual and the 3 percents redeemable. We have had successively in circulation 5 percents under the First Empire, the Restoration, Charles X, and Louis Philippe; some 4 percents from 1829 to 1887; and 4.5 and 3 percents under the Second Empire. With the disasters of 1870 we were obliged to create some 6 percents with the Morgan loan (a souvenir of the exciting struggles in defending the nation); afterwards some 5 percents were created for the libérateur loans, and later, in combination, some 5 percents liquidation bonds of the city of Paris and of the departments. The restoration of the credit of France from 1870 to the present time is clearly proved by the conversions or reimbursements of the old 4.5 and 4 percents, the Morgan loan, and the bonds of liquidation. The only national type of rente to-day is the 3 percents perpetual and 3 percents redeemable, which differs from the perpetual only by its obligatory inconvertibility, its automatic reimbursement at par by annual drawings, while the perpetual is convertible from the day it surpasses the par of 100 francs.

"To buy stock," "to own stock," are expressions which in France mean to buy or own 3 percents. Besides this there exist, it is true, some securities which have the direct or indirect guaranty of the Government—colonial loans, railroad obligations, and, from a moral point of view, obligations of the Crédit Foncier of France and of the city of Paris, etc. Capitalists and stockholders wishing rentes are not compelled therefore to buy the 3 percents alone; much capital has been placed in colonial, railroad, Crédit Foncier, and Ville de Paris securities. This second category amounts to some 25 milliards of francs (\$4,825,000,000), or a sum equal to that represented by the Consolidated 3 per cent rentes.

It may be said to those who, comparing the English with French securities, pretend that our credit is inferior to that of our neighbors, that if French savings had not been attracted by these divers securities, all the investments would have been in 3 percents, and these latter would have been higher than at present, and would approach if not surpass in price and interest the English bonds.

Germany.—There is in Germany the greatest imaginable collection of securities: German, 3.5 percents; Prussian, 3.5 and 3's; bonds of Alsace-Lorraine, Baden, Bavaria, Bremen, Brunswick, Frankfort-on-the-Main, Hamburg, Hanover, Hesse, Mecklenburg, Saxony, and Wurttemberg. Some of these are 4's, some 3½'s, and others 3's. This diversity of securities is as great as that of the public debt.

Germany's debt is distinct from that of Prussia, while the latter is distinct from that of the Grand Duchy of Baden, Bavaria, Bremen City, the Duchy of Brunswick, Hanover, Saxony, or Wurttemberg, etc. There are as many public debts and divers budgets of the securities of distinct States as there were ancient Confederate States united at present under the authority of the German Empire. German capitalists who wish to buy stock can only be embarrassed as to choice. They are not compelled to buy German 3's nor Prussian 3's. They can, as they like, invest in Saxon 3's, in Bavarian, or other stocks.

So we find in England an almost absolute unity of State securities, public debt, and national budget; in France, unity of rentes, since the conversion of the 3.5 percents, unity of the budget, but many values

similar to the national rentes, because carrying the State's guaranty; while in Germany there is a diversity of securities, debts, and budgets—a veritable financial trilogy.

NATURE AND QUALITY OF THE BUYERS AND OWNERS OF ENGLISH, FRENCH, AND GERMAN STATE SECURITIES.

England.—In England there is little speculation in Consolidated 2.5 percents, and consequently few floating shares. This is because England, except in late years—during and following the Transvaal war—has borrowed little as Consolidated stock. Speculation, the incontestible effect of which is to support those securities imperfectly classed, has seldom needed to intervene. English consols are carried especially by the banks, societies, insurance companies, or wealthy capitalists, who thus employ them exactly as if they were bank bills carrying interest, payable at sight, and in addition offering chances of increased value. The English have always believed that an investment in consols was exempt from risks, presenting the maximum of security with an almost certain increase of value. The uninterrupted advance of English consols during nearly half a century, with rare exceptions, justified this belief, but of late the competition of other investments, the conversion of the stock, and especially the Transvaal war, have shown that it is not best to have a preconceived and positive opinion concerning State and personal securities.

In 1894 the old 2.5 consols were negotiated at 102 per cent, being 14 per cent higher than the new 2.5 consols. Eight to 10 points of this lowering of 14 points since 1894 is due to the Transvaal war; and during the last year the reduction in value has been more pronounced.

What is this proof of? It is that the principal maintenance of Government securities and their force of resistance are particularly due to the kind and number of buyers; that is, from a point of view of the values and classification of stock in the portfolios, a large number of buyers and owners of the middle class, scattered all over the country, as in France, is preferable to large temporary holders. It is true that in addition to the wealthy investors, as banks and societies, there are many permanent English investments, such as dowries, or those administered by guardians or trustees which can not be employed in industrial or personal enterprises.

France.—In France the public coffers, speculators, and capitalists invest in rentes, which are bought or sold on time or cash in the official or free market, more easily sometimes than the same amount of national or international speculative values. The French rentes have one of the largest markets, cash or time, existing. The buying or selling of hundreds of thousands of rentes can be done in one bourse with a wonderful facility and without producing any extended change in the market. The buyer is sure to find a seller and the seller a buyer.

The utility of speculation in French rente futures has often been disputed; but this utility was proved at the time of the "libératoires" loans; and affirmed by Thiers, Léon Say, and all those thoroughly acquainted with the intricate machinery of financial markets. After peace, speculation in rente futures facilitated the classification of stocks in the smallest portfolios. Speculation has at times been combated and impeded, but with no success. In 1898 an attempt was

made to stop it, but the minister of finances at that time, M. Doumer, at once saw the error and, thanks to him, favorable financial treatment was granted to these "behind-the-scenes" investors.

A less number of temporary investments are made in French than in English securities, for the particular reason that the French rentes appear more speculative, and as such are exposed to a greater number of and more sudden movements. A French capitalist having funds disposable for two or three months will buy "bons" of the Treasury to mature in two or three months, will discount some commercial stock, or will deposit the funds in an establishment of French credit, and be content with a trifling interest.

If French rentes are not bought by those who invest large capital for a long time they are sustained by an immense army of persons of small means, "petits bourgeois," or "petits épargneurs." This faithful clientèle is composed of millions of those depositing small sums in the savings banks—miners, the disabled, married women, insurance societies, mutualists, and the millions of middle classes, countrymen, shopkeepers, and merchants disposing of some hundreds or thousands of francs, all of them, in preference to anything else, investing in the security and tranquillity of French 3 percents.

The investors in Government rentes are legion. We have often shown how the division and distribution of rentes were infinite. No country in the world possesses such a financial democracy. This democracy, which imprudent legislators too often alarm, has the respect and gratitude of everyone. It has furnished the necessary capital for the war ransom, for the recuperation of the country, and for improvements in time of peace. Freedom of territory and the safety and restoration of the country is found in the legendary "woolen stocking."

Germany.—In Germany there is little speculation in State securities. When German or Prussian loans are effected the banks, at the moment of emission, intervene to facilitate the sale and classification, after which they do nothing more.

In Germany, contrary to the conditions in England and France, there are no obligatory investments in stock, such as dowries or deposits of guardians. German savings banks are not compelled, as in France, to invest in State securities. Recent published information shows that this reform has been studied in Germany, and that the adoption of the French system, criticised by us, is very much in favor in Germany, where it is considered a wise and useful means of promoting public and private interests. Germany has not a great number of small capitalists investing, as our French countrymen, their savings in rentes. If it existed, its strength would be greatly diminished by the diversity of stocks amidst which German investors would have to choose. It is not probable that a Saxon or a Bavarian buys Prussian 3 percents or the 3 percents of Wurtemberg in preference to the Saxon or Bavarian 3's. On the contrary, an Englishman or Frenchman would buy 2.5 consols or 3 percents perpetual, whatever might be the county, village, or department in which he lived.

SUMMARY.

The preceding shows why the Government stocks of three great States, rich and powerful, having lost none of their resources, and offering an equal security, possess different values and interests. These

causes are not found in the debt per capita, nor in the amount of borrowings, nor in the number of population, etc., as is generally asserted, but are of a financial kind, depending upon—

1. The financial, commercial, and industrial productivity of the country.
2. The ease with which fiscal charges are supported and acquitted.
3. The financial organization of the market, the kind of investors, and the economy of the different countries.
4. The unity or diversity of national securities.
5. The method of employing capital in State or other stocks and the extent of the market and negotiations.
6. The inclination of investors to acquire stock or other securities.

In studying the arguments of M. Neymarck I took occasion to ask him the following:

Does it not seem that not only a country's credit but the market value and interest on its securities depend more on the faith of the investor than anything else? And if this is true, would not the conditions that beget such a faith be those which would determine the variations of market values and of interests on State securities among the nations of the world; and are not these conditions the State's ability to keep its promises; and does not its ability to keep its promises depend upon its economy, culture, resources, civilization, patriotism, and strength of army and navy?

In reply M. Neymarck says:

Certainly the values and interests of State securities depend upon faith, that is, upon the confidence of those who buy or sell shares of government stock in such or such a country, but this faith and this confidence are determined by the causes I have indicated. (See the six causes above mentioned.)

When, for example, some twenty years ago the public bought foreign State securities, of Peru, Turkey, or others, before their bankruptcy, it had faith and confidence, but a misplaced faith and confidence.

The principal conditions which should determine confidence are the following:

1. Honesty of the borrowing country; its scrupulous respect for all the promises it makes.
2. The State's budgetary, economic, commercial, and financial situation.
3. The State's circulation and its monetary reserve and bank notes.
4. The strength of its savings and the inclination of the public for investment in State securities.
5. The productivity of the country, the extent of its resources, and of its foreign relations from a commercial and industrial point of view.

Interests on State securities are not determined by confidence alone; it is one of the causes, but it should not be isolated from the others which I have indicated.

PART 2.

M. Neymarck next takes up Belgium, Netherlands, Sweden, Norway, Denmark, and Switzerland, six countries which as to population are of the second order, but certainly of the very first in regard to scrupulous honesty and faithfulness to fulfill all engagements. In regard to what influence population, public debt, debt per capita, etc., can have upon the market values and interests of the securities of these countries, he says:

The Belgian 3 percents are worth 99.5, thus yielding 3.01 per cent, and so are worth more than any other European 3 per cent security. The 3 percents of Netherlands are worth 96, thus yielding 3.09 per cent; the 1894 Swedish 3's, quoted at 94, yield 3.18 per cent; the Norwegian 3's, at 89, yield 3.37 per cent; the Danish and Swedish 3's, quoted at 89 and 90, respectively, both yield 3.33 per cent.

BELGIAN SECURITIES.

Of all these States, Belgium has the greatest population, the greatest budget of receipts and expenditures, the greatest public debt, and the greatest amount of interest to pay thereon.

The population is 6,700,000 (1896-1905). The debt per capita in Belgium is about \$81; in Netherlands, \$86.85; in Switzerland, \$59.80; in Norway, \$27.20; in Denmark, \$20.25, and in Sweden, \$17.75. The interest on the debt of Belgium is \$21,230,000; of Netherlands, \$12,931,000; of Sweden, \$3,474,000 to \$3,667,000; of Norway, \$2,702,000; of Denmark, \$2,123,000, and of Switzerland, \$772,000.

When the budgets of expenses are compared, Belgium has the heaviest, \$98,430,000, while Netherlands has \$71,410,000; Sweden, \$46,513,000; Norway, \$27,213,000; Switzerland, \$21,230,000, and Denmark, \$20,265,000. Likewise when the capitalized debts of these countries are compared it will be found that Belgium heads the list with \$555,840,000; Netherlands has \$459,340,000; Sweden, \$93,026,000; Norway, \$70,445,000, and Denmark, \$66,006,000.

So if the market values of State securities were estimated by these divers elements Belgian rentes should be quoted lower by several figures than the others. Why are they not? For the reason that the same financial causes exist in Belgium as in England and France.

1. The market of Belgian rentes is national. It is true that they are quoted in France and in the Netherlands, but the principal transactions are in Belgium.

2. The unity of Belgian State securities was assured by the conversion of the old 3.5 percents. There is a 2.5 rente, but transactions monopolize the 3's. The capital of the 2.5 debt is moreover small compared to that of the 3 percents. In 1903 the 2.5 percents had a nominal capital of \$42,460,000, while the 3's of the first, second, and third series had a nominal capital of \$512,608,000.

3. Belgian rentes possess a faithful clientele of small and average capitalists, as well as of banks and large companies.

We would also add that for nearly a quarter of a century the values and fluctuations of Belgian and French 3's have followed in unequal proportions almost the same progress toward par. In 1892 both Bel-

gian and French 3's reached and passed par. The former were quoted at their highest in 1895, being 103.25; the latter reached their highest in 1897, being quoted at 105.25. The following shows the highest and lowest quotations of these rentes since 1880:

Years.	Belgian.		French.	
	Highest.	Lowest.	Highest.	Lowest.
1880 to 1903.....	103.25	81.55	105.25	74.15

The fluctuations of the Belgian rente are narrower than of the French. It could hardly be otherwise, as the debts of the two countries are not comparable—\$5,018,000,000 in France and \$555,840,000 in Belgium. But the market values and the interests are determined by the same financial causes as determine those of England, France, and Germany.

NETHERLANDS SECURITIES.

Netherlands comes next to Belgium. It has 5,347,000 inhabitants, an expense budget of \$71,410,000, a capitalized debt of \$459,340,000, and an annual interest of \$12,931,000 on its debt. Its 3 percents are worth about 97.

The same financial causes exercise in this country the same influence.

1. The market of Netherlands securities, like that of the English, French, German, and Belgian, is essentially national, and the principal transactions are made upon the Amsterdam bourse.

2. There exist few, if any other, State securities to compete with the 2.5 and 3 percents Netherlands rentes.

3. The clientele of these securities consists of capitalists, banks, insurance companies, and investors of average means.

4. Netherlands has a credit of the first order, an active commercial and financial market, and is not tributary to any foreign country. It is a lender, not a borrower.

5. It is to the interest of foreign capitalists that the stability of Netherlands 2.5 and 3 percents cause their sale on many foreign markets. They are quoted in France, the 3 percents alone being negotiated.

SWEDISH SECURITIES.

Next to Netherlands comes Sweden, with 5,198,000 inhabitants, a budget of \$46,513,000, a debt of \$93,026,000, with an annual interest of \$3,628,400. Its population is 1,500,000 less than that of Belgium and approximately equal to that of the Netherlands. The interest on its public debt is one-sixth of that of Belgium, while that of the Netherlands is three and one-half times as great. Its debt per capita is one-fourth that of Belgium and the Netherlands. However, the 1894 Swedish 3 percents are worth hardly 94, that is, less than the Belgian and Netherlands 3's.

The exterior debt of Sweden at the end of 1903 was \$79,864,000, which, with the interior debt, amounts to \$93,026,000. The Belgian debt, in 2.5 and 3 percents, is \$555,068,000, and the debt of the Netherlands, in 2.5 and 3 percents is \$459,840,000. The Swedish debt, consisting of negotiable securities, is therefore one-seventh of the Belgian and one-sixth of the Netherlands debt. If the amount of debt had any

influence on the market value, the Belgian and Netherlands securities would sell below the Swedish. But on the contrary, what are the facts? The Swedish securities are worth 5 to 6 points less than Belgian 3's and 3 points less than Netherlands 3's. The following are still the essentially financial reasons which explain these differences of market values and interests:

1. There is no national market, or almost none, for Swedish securities.
2. They are bought and sold upon foreign markets mostly, especially in Paris.
3. While the interior debt of Sweden is about \$15,440,000, the exterior debt, consisting of 3.5, 3, and, by loan of 1900, 4 percents, amounts to about \$77,200,000.
4. There exists in Sweden no unity of securities as in England, France, Belgium, and Netherlands. There are three kinds of 3.5 percents, three of 3's, and one of 4's quoted upon the Paris bourse.
5. The increase or decrease of Swedish securities depends therefore upon the favor or disfavor of foreign capitalists as well as upon the condition of the country.

DANISH SECURITIES.

Denmark has 2,464,000 inhabitants, or 2,730,000 less than Sweden. Its budget is \$20,265,000, its debt \$66,006,000, the annual interest on which is \$2,123,000. Its expenses weigh the less heavily because of revenues from railroad, telegraph, and telephone property which the State owns. On its debt of \$66,006,000 the State's assets amount to \$25,435,992, and the State railroads, for their construction and first equipment, represent \$48,240,000.

The Danish 3's, however, after having at one time almost reached par, have descended to about 89, that is, lower than any of the countries of which we have heretofore spoken. Why?

1. Because there is almost no national Danish market for State securities; it exists abroad, principally in France.
2. Because the exterior debt amounts to \$47,704,000 and exceeds by \$29,480,000 the interior debt.
3. Because there is no unity of securities in Denmark. Upon the Paris bourse there are 3.5 percents and two kinds of 3 percents.
4. Because the values and fluctuations of Danish securities are influenced by divers foreign markets on which they are bought and sold, and by the more or less favorable disposition of foreign capitalists. The economic, financial, commercial, and industrial condition, and the resources of Denmark can be excellent and yet the quotation of its securities depend altogether upon the impressions, the buying and selling of exterior stock markets.

NORWEGIAN SECURITIES.

Norway, coming next to Denmark, has a population of 2,240,000. Its budget amounts to \$27,213,000, and its debt to \$70,445,000, the interest and redemption of which is annually \$2,702,000. The assets of the State, comprising divers reserves and its railroads, are almost equal to its liabilities, being \$68,901,000. But Norwegian 3 per cent securities, like the Danish, are quoted between 88 and 89, or 5 points less than Swedish, 7 points less than Netherlands, and 11 points less than Belgian, at the same time that its securities and its guaranties are as secure and incontestable. Why is this?

1. Because Norway has no national market for its State securities.
 2. Because all of its borrowings, with the exception of an old 3 per cent and of some shares of securities issued in exchange for privileged shares in the railroad from Christiania to Eidswold, have been contracted abroad, especially in France.

3. Because in Norway, as in Denmark and Sweden, there is no unity of securities. In the official quotations of the bourse of Paris there are found quoted, cash or future, four kinds of 3.5 per cent Norwegian rentes, 1894, 1898, 1900, and 1903; and three kinds of 3 percents, 1886, 1888, 1896. For cash alone there is also quoted an 1895 3.5 per cent, an 1903 3 per cent, and some 1902 3.5 and 1900 4 percents of the Banque Hypothécaire. This diversity turns aside foreign capital.

4. Norway has borrowed abroad in 1866, 1888, 1892, 1894, 1888, 1895, 1896, 1898, 1900, and 1902. It has not borrowed from the interior. Foreign banks have supplied its needs.

5. The credit of Norway is dependent on foreign countries.

6. It is thus shown that whatever may be the degree of internal prosperity of a country which borrows abroad, whatever may be the decadence it undergoes, the value of its securities, in one case as in the other, is completely at the mercy of the favorable or unfavorable inclinations of foreign markets and lenders. In spite therefore of their security and guarantee, countries compelled to seek the supply of their financial needs abroad are placed at a disadvantage.

SWISS SECURITIES.

The Swiss Confederation has 3,325,000 inhabitants, and a budget in 1904 of \$22,195,000. According to the Statesman's Yearbook of 1904, the debt of Switzerland is \$17,370,000, necessitating an annual interest and redemption of \$1,103,325; but the Statesman's Yearbook has not included the debts contracted by the Government for its guarantee of the railroads. Altogether, the Swiss borrowings, the 3.5 percents of 1889, 1892, 1894, the railroad 3 percents, the 1897 3's, the 3.5 percents of 1899 to 1902, and the 1900 railroads quoted on the Paris bourse amount to \$89,129,500. On the other hand, the assets of the State, comprising divers properties and revenues, exceed \$36,863,000, and can be valued, deduction being made for liabilities, at a net total of \$19,587,447,831. We find—

1. A population less than half that of Belgium and a third less than that of the Netherlands and Sweden;

2. A budget of expenses and interest on the debt insignificant compared with those of the same countries;

3. A large national asset.

Such are the conclusions to which the statistics of these countries bring us. Does it not seem then that the Swiss 3 percents ought to be higher than those of Belgium, the Netherlands, and Sweden? They are not. In Switzerland the diversity of the same kinds of securities is equal to the diversity of the values. While the 3's of 1903 are quoted at about 90 the railroad 3's of 1890 are quoted at 98.70, the first series of the 1897 3's at 96.50, and the railroad 3.5's of 1899 to 1902 at 100.9 (equivalent to 3 per cent at 86.48), and the 3 percents deferred (3.5 per cent until 1911 and 2.75 per cent from 1911 to 1917) at 96. The capital and interest of this last loan are payable as exchange, a stipulation not mentioned in regard to the other loans, which leaves them to bear any burden which chance may bring.

The conclusions are—

1. There is no unity of Swiss securities.
2. Regarding the national and international market, there is a market at Geneva, Basel, Zurich, etc., but the exterior market is more important, especially at Paris, which has contributed powerfully to the success and classification of the railroad loans.
3. There is competition upon the same securities of Switzerland by the many diverse canton and village loans.

All these financial causes explain the inferiority of the value of Swiss securities compared with those other countries, despite the prosperity of the country, despite its relatively small debt, its resources, and its scrupulous and proverbial honesty. Besides the Government rentes it is easy to find Geneva 3.5 and 4 percents funds, 4 per cent obligations of the Ville de Genève, Lausanne, Zurich, 3.5 Zurich, 3.5's of 1899 and 1900 of the State of Berne, and 3.5 and 3 percents of the State of Fribourg. The capitalist who wishes to buy values and securities in Switzerland, whether federal, cantonal, or municipal, is embarrassed as to choice.

SUMMARY.

The following table is a résumé of the second part of this study:

Population, debt, interest on debt, debt per capita, and expenses, in round numbers, and market quotations of 3 per cent securities of certain European countries.

Country.	Population.	Debt.	Interest on debt.	Expenses.	Debt per capita.	Stock quotations.
Belgium	6,700,000	\$555,800,000	\$21,000,000	\$98,400,000	\$81.00	99.5
Netherlands	5,300,000	459,000,000	12,700,000	71,400,000	86.85	96
Sweden	5,200,000	93,000,000	3,500,000	46,500,000	17.75	94
Denmark	2,400,000	66,000,000	2,000,000	20,200,000	20.25	89
Norway	2,200,000	70,000,000	2,700,000	27,200,000	27.20	89
Switzerland.....	3,300,000	89,000,000	772,000	21,200,000	59.80	90

^aIncluding debts contracted for guarantee of railroads.

These figures justify the financial rules and principles already established for Great Britain, France, and Germany. If the debt per capita were an exact criterion the Swedish funds should be worth more than all the others, after which would follow the Danish, Norwegian, Swiss, Belgian and Dutch, German, English, French. On the contrary, the English, Belgian, and French securities are more valuable; after which come the Dutch, Swedish, and Swiss, with Danish and Norwegian securities at the bottom.

PART 3.

M. Neymarck, in the third and fourth parts of his study, takes up Italy, Austria-Hungary, Russia, Roumania, Spain, Portugal, Bulgaria, Servia, Greece, and Turkey, and applies to each the principles he has already formulated.

ITALIAN SECURITIES.

In order effectively to confute the "per capita" argument in regard to Italy, he gives some of the country's statistics. The population on January 1, 1901, was 32,961,247, and on June 30, 1904, the general

total of the ordinary and extraordinary budgetary expenses was \$350,858,844. He estimates that the general total of the public debt, with which he includes the consolidated debt, the debts separately inscribed as those of Tuscany, Modena, Parma, and Rome, the loans guaranteed by church property, the Novara, Cuneo, and Victor Emanuel railroad loans, and the floating debt, requires an annuity of \$112,794,116 plus \$1,628,430 for the 1902-3 redemption, making a total of \$114,422,546. It will be seen that if the \$112,794,116 is capitalized at 4 per cent, the nominal capital of Italy's debt is not quite \$2,820,000,000. The Bureau of Statistics of the Department of Commerce and Labor puts it for 1901 at \$2,583,983,780.

These figures are compared with those of England and Wales, whose population of 32,527,843 about equals that of Italy. The ordinary budgetary expenses of the former, however, M. Neymarck finds on March 31, 1903, to be \$1,214,195,132 and its nominal capital debt \$3,698,263,940, requiring an annual burden of \$131,516,705. "These figures show," remarks the writer, "that the 'per capita' argument applied to Italy as compared with England is absolutely inaccurate," and further adds that "if the debt of Italy is compared with the population or with the amount of the budget of expenses, the interest on the market value of its securities should be at least as low as that on the French, Belgian, and English securities; that is, in the neighborhood of 3 per cent. But though its population is only some 6,000,000 less than that of France and its budget less than half, as is also its public debt, taken either at its nominal capital or as annuities, its principal securities, 5 percents, which are quoted at 104, yield 4 net, or nearly 4 per cent, and can be converted when exterior or interior conditions permit."

The almost uninterrupted succession of surplus budgets is cited by M. Neymarck as a proof of the great amelioration of the credit of Italy within the last several years. It is one of the few countries which has no deficit.

The consolidated Italian "rentes" consist of 5, 4.5, 4, 3.5, and 3 per cent securities, in addition to foreign and domestic loans, divers debts, and railway bonds the interest and redemption of which are guaranteed by the State.

The writer finds that Italian securities are not negotiated at the same rate as securities of States having the same budgetary and financial situation and the same or a lesser population. He gives the causes for this as follows:

1. Italian securities are negotiated on Italian markets, but Italy's principal market is abroad, particularly at Paris—where its 5 per cent "rentes" are issued—at Berlin, London, Vienna, and Amsterdam. The Italian market is therefore dependent.

2. If the securities of Italy have a national and international market,

the great preponderance of its stock is held by foreign capitalists, although within late years its citizens have rebought many Italian securities.

3. Credit transactions and economy have not sufficiently developed to permit the country to be independent of foreign capital.

4. Though there are 5 and 3 per cent Italian "rentes" negotiated at different prices, as well as railroad bonds guaranteed by the State, the principal security is the 5 per cent "rente," and with it all foreign and domestic negotiations are concerned.

5. Exchange has often influenced the value of Italian securities; for a long time Italian bills were worth less than French, English, and Belgian bank notes. Compelled to pay in gold the arrears of its exterior loans, the Government had recourse to divers measures, principally to the affidavit to limit the amount of bonds going abroad, where the coupons were cashed in order to benefit by the difference in exchange.

To these causes the author also adds: (1) Individual productivity; (2) material conditions; (3) and the greater or less ease with which taxpayers pay taxes which would be ruinous for others.

AUSTRO-HUNGARIAN SECURITIES.

M. Neymarck gives the population of Austria as 26,000,000, and that of Hungary as 19,000,000, a total of 45,000,000, or 2,000,000 less than most authorities at present estimate the population of the two countries. According to his figures the Empire has 6,000,000 more inhabitants than France, 4,000,000 more than the United Kingdom, and 12,000,000 more than Italy. The combined populations of Belgium, Netherlands, Denmark, Norway, Sweden, and Switzerland form a total of 25,000,000, or 20,000,000 less than Austria-Hungary. The debts of the countries represented in the Reichsrath on January 1, 1903, are given as \$1,845,431,877, while the expenses of the debt, interests, premiums, securities, etc., represent an annuity of \$75,207,426.

According to the budget for 1903 the expense of Austria's public debt was \$73,259,584, and of Hungary's \$12,306,049, making a total of \$85,563,633. The expenditures of Austria-Hungary for 1901 were estimated by the Bureau of Statistics of the Department of Commerce and Labor at \$73,659,000. M. Neymarck says that the debts of the countries under the Hungarian crown, at the beginning of 1902, exceeded \$1,015,000,000, without counting the part owed in the common Austrian debt (about 30 per cent). The Bureau of Statistics places it at \$904,941,000. The difference of figures, however, does not affect the author's conclusions. "It may be said," he declares, "that the capital of the public Austro-Hungarian debt exceeds, in round figures, \$1,827,000,000, requiring an annuity of \$85,260,000." He further remarks the whole of the Austrian funds quoted on the Paris bourse

December 31, 1902, consisting of the 1868 5 per cent debt, 4 per cent gold securities, 1860 5 per cent shares, and demesnil securities, represented a nominal capital of \$1,044,092,461. There is also negotiated an 1897 3.5 per cent Hungarian security, representing a nominal capital of \$11,580,000, and a 1902 4 per cent Hungarian security with a nominal capital of \$209,881,770. The total Hungarian funds negotiable upon the Paris bourse amount, in round figures, to \$559,700,000, which, with the \$1,044,092,461 Austrian funds, form a total of \$1,603,792,461.

In regard to the budgetary expenses, he says that for 1903 they were for the countries represented in the Reichsrath including the interest on their public debts, \$350,423,763. He then calls attention to the fact that if the amount of the public debt, or the interest on it, or the public expenses, be divided by the number of inhabitants, the amount "per capita" would be found to be very much lower in Austria-Hungary than in England, Germany, Belgium, Netherlands, and other countries, and yet the Austro-Hungarian funds pay nearly 4 per cent. The 4 per cent Austrian gold securities are worth 102.5; the united securities are below par; the Hungarian gold 4's are quoted at 101, the 1895 3 per cent gold at 83, and the crown securities at 96.

He again declares, as in the case of the countries previously examined, that the explanation of the differences of the market values and interests on State securities is not to be found in the number of inhabitants nor in the amount of the public debt owed by each inhabitant. He remarks that the debt "per capita" in Italy is about \$86 and in Austria-Hungary \$38.60, reckoning only the debts of the countries represented in the Reichsrath. And yet the Italian "rentes" are quoted 2 and 3 per cent higher than the Austro-Hungarian ones. The figures given for the "per capita" debts of Italy and Austria-Hungary are very different from those given for 1901 by the Bureau of Statistics of the Department of Commerce and Labor, \$81.11 and \$25.80, respectively, but the difference only strengthens M. Neymarck's reasons, which he sums up as follows:

1. Though all the Austro-Hungarian securities are quoted and negotiated on the Austrian and Hungarian markets, these are none the less tributary to or dependent upon foreign markets, Paris and Berlin.

2. The conversions of Austrian and Hungarian securities and the floating of new loans have been effected on the national markets, but without the support of foreign markets, particularly Paris, the results of these operations would have been very ordinary, if not compromised.

3. In Austria and Hungary national savings have for some time increased, but they are not invested in State stocks. The large, ordinary, and small capitalists prefer to invest in industrial and other securities.

4. Unity of securities exists no more in Austria than in Hungary. In the two countries, in addition to the 4 percents, there are many

other State funds. In Austria there is the 4 percent payable in crowns, the 1876 4 percent gold, the 1866 demesnil bonds, the 4 percent Hungarian gold and 4 percent crowns, the State 3 per cent local railway bonds, the securities of the Elizabeth, Rodolphbahn, and Voreslbergbahn railroads, securities on loans at a premium, and numerous hypothecary bonds. Should the Austro-Hungarian savings become equal to those of other countries, and should the savings take a tendency toward investment in State securities, it could produce but slight effect on "rentes" of such diversity.

RUSSIAN SECURITIES.

According to the census in 1897 the total population of the Russian Empire in Europe and Asia is found by M. Neymarck to be something like 129,000,000, and in 1903 some 141,000,000. European Russia, including Poland and Finland, has about 115,500,000 people. The ordinary budgetary expenses for 1904 were estimated at \$1,012,725,999, and the extraordinary expenses at \$109,272,084, making a total of \$1,121,998,083.

According to the annual statistics published by Hoskier & Co., which the writer cites, the public debt on January 1, 1904, including exterior and interior loans, loans in rubles, or in rubles and foreign money, amounted to \$3,415,300,692. The Bureau of Statistics at Washington gives it for 1904 at \$3,414,061,734. These figures include all the loans contracted to buy, construct, and conduct Russian railroads, the receipts from which go to paying off the debt. In the expense budget the interest, redemption, and banking expenses of the public debt amount to \$149,847,663. Without going into the minutiae of calculation the Russian public debt, contracted at home and abroad, is estimated by M. Neymarck to be, in round numbers, \$3,474,000,000, of which about \$1,544,000,000 has been expended in railroads.

"If a comparison is made between this debt and its necessary annuity," says the writer, "or the budgetary expenses, and the number of inhabitants, the amount 'per capita,' in capital and interest, will be found very small, and the 'per capita' expenses of the budget still smaller, according to which it might be concluded that the credit of Russia was better than that of Great Britain, France, Germany, and others." It might be mentioned, however, though not in any way to establish the "per capita" argument which M. Neymarck so conclusively disproves, that the "per capita" debts of Germany and Russia are, respectively, \$9.96 and \$24.56.

The present market values of Russia being abnormal, the author takes the figures before the beginning of the war. Russian 3 per cent securities were about at par, the most favored being those irredeemable before a certain time. When issued the 1896 3s, issued at 92.30, paid about 3.25 per cent. Before the present war Russian securities

came next to the English and French; their market values and interests were almost the same as those of Germany, and above the Italian and Austro-Hungarian securities.

The causes of their relative inferiority which the writer gives confirms the rules he has already set forth:

1. Russia, unlike France and England, has no national market exclusively for its securities. Foreign and domestic "rentes" are negotiated upon the Russian bourses, but their principal market is Paris, after which follow Berlin, London, and Amsterdam.

2. Russian credit, from a borrowing point of view, depends upon the confidence of exterior markets. Political, commercial, industrial, and financial events which do not interest Russia often produce important changes abroad which materially affect the value of Russian securities.

3. Russian savings, despite the development and importance of savings banks, have no tendency toward personal property, stocks, or State investments. When the Government wishes to contract an important loan on short notice it looks abroad.

4. No country has such a diversity of securities, either domestic or foreign. It has perpetual, irredeemable "rentes," as the 1822 5 percents, redeemable stocks and bonds, securities redeemable after a certain time, as the 1896 3 percents and the 1902 4 percents, and domestic and foreign treasury bonds. On the Paris bourse alone 28 divers Russian loans were quoted at the end of December, 1902. The number of shares in circulation was 11,294,836, representing a nominal capital of \$2,185,400,528, and on December 31, 1903, \$2,181,805,006.

5. Russian and foreign capitalists who wish to invest find themselves amidst a multitude of values from which it is most embarrassing to choose. In normal times of prosperity this diversity of Russian funds has prevented an advance of values, which would have been very great had unity of "rentes" existed.

6. But upon this point there may be exceptions. Unity of "rentes" in some countries and in certain cases, in the absence of grave foreign or domestic events, can be, as we have shown, advantageous to public credit, while in other countries under different circumstances it can, on the other hand, have a detrimental effect. If Russia, in the present crisis, had had in circulation only one type of security the market would have been surfeited with offers, whereas buying and selling has been distributed among the many different securities, thereby causing less fluctuation of values. In this respect the diversity and multiplicity of "rentes" have been for Russia more advantageous than injurious.

ROUMANIAN SECURITIES.

Does Roumania contradict the financial rules we have established? asks M. Neymarck, and he answers, Not at all. He notices that its

population is important compared with its total debt and with its budgetary expenses. At the end of 1902 it had 6,197,798 inhabitants; the total budget of expenses was \$42,170,500; the interest on its public debt for 1903-4 amounted to \$16,490,110; the remaining redeemable capital of the public debt on April 1, 1903, was \$269,010,929. The 4 per cent remaining securities are quoted at between 88 and 90 and yield about 4.5 per cent, and the 5's at par yield 5 per cent.

Comparing these with the figures given for Belgium and Netherlands, the writer finds that the former has a population of 600,000 to 700,000 greater than Roumania, but its debt is \$289,500,000 more and the interest on the same \$4,825,000 more than that of Roumania. Netherlands has a population of 800,000 less than Roumania, while its debt is \$173,700 more. The securities of Belgium, according to their market value, pay 3 per cent and those of Netherlands a few centimes more. So between the rates of interest of Belgium and Netherlands "rentes" and Roumanian "rentes" there is a difference in favor of the two former countries of 1.5 to 2 per cent. "One can see, taking Roumania as an example," says M. Neymarck, "that a State's debt, compared with its population, has no effect upon the value and interest of securities, for these are countries with an equal or less number of inhabitants than Roumania and with greater debts, but whose securities are more valuable."

"The same financial causes," he asserts, "studied in connection with the other countries, produce the same effects in Roumania."

1. Roumania has no national market for its public funds, consequently it is dependent.

2. All its principal loans have been contracted abroad, consequently it can not control its credit.

3. Roumanian savings are in the formative period; they are not sufficiently great to supply the needs of the State.

4. Unity of securities does not exist; there is great diversity in the 4 and 5 percents.

5. At the close of 1902 there existed on the Paris bourse two 5's and four 4's, including the treasury bonds which have since been redeemed or replaced by a new 5 per cent "rente." The capital of all these amounted to about \$236,039,000.

SUMMARY OF PART 3.

"Thus Italy, Austria-Hungary, Russia, and Roumania, as the before-named States, testify to the truth of the financial principles we have asserted, and utterly destroy the 'per capita' legend."

The figures in regard to these countries are tabulated as follows:

**Population, debt, interest on debt, debt per capita, and expenses, in round numbers, and market quotations of 4 per cent securities of certain European countries.*

Country.	Population.	Debt.	Interest on debt.	Expenses.	Debt per capita.	Stock quotations.
Italy	32,900,000	\$2,895,000,000	\$114,200,000	\$350,600,000	\$88.39	104
Austria	26,000,000	1,737,000,000	71,400,000	333,100,000	38.60	100 to 102
Hungary	19,000,000	3,396,800,000	55,900,000	1,156,200,000	30.00	92 to 94
Roumania	115,000,000	270,200,000	16,400,000	42,000,000	43.40	88 to 90

“If the per capita debt determined exactly the credit of a country, the value of its securities, etc., Russia would head the list, followed by Austria-Hungary, Roumania, and, lastly, Italy. But the real order is Italy, Austria-Hungary, Roumania, and Russia.”

PART 4.

SECURITIES OF SPAIN, PORTUGAL, BULGARIA, SERBIA, GREECE, AND TURKEY.

M. Neymarck says that these countries, willingly or not, in good or bad faith, have often repaired their public debts by entering into arrangements with their creditors or delivering up possession of certain resources. The following table shows in round numbers the population, debt, interest on debt, expenses, debt “per capita,” and security values of these States:

Population, debt, interest on debt, debt per capita, and expenses, in round numbers, and market quotations of securities of certain European countries.

Country.	Population.	Debt.	Interest on debt.	Expenses.	Debt per capita.	Stock quotations.
Spain	18,200,000	\$1,864,400,000	\$76,200,000	\$187,600,000	\$103.00	a 89
Portugal	5,400,000	824,500,000	22,600,000	62,100,000	152.60	b 63
Bulgaria	3,700,000	54,000,000	4,800,000	19,300,000	14.60	a 91
Servia	2,500,000	79,500,000	3,500,000	14,500,000	31.65	a 77
Greece	2,400,000	159,200,000	3,900,000	13,500,000	66.00	a 240
Turkey in Europe..	24,000,000	603,100,000	11,000,000	85,900,000	25.00	a 86.50

a Four percents.

b Three percents.

c Five percents, 1902.

“If the ‘per capita’ argument could be relied upon as a true index of the credit of these countries, and of the relative value of their securities, then,” remarks M. Neymarck, “the Bulgarian ‘rentes’ would head the list, with Turkish, Servian, Grecian, Spanish, and Portuguese securities following in succession. But Spanish securities come first, followed in order by Turkish, Portuguese, Servian, Bulgarian, and Grecian.”

He says that at the present time Spanish securities pay 4.65 per cent; Portuguese securities about 5 per cent; Grecian, 7.5 per cent; Turkish, 4.60 per cent; and Bulgarian and Servian, about 5.5 per cent. Of

all the European "rentes" these yield the greatest revenue, a fact which proves that the market value and interest depend upon the degree of confidence these countries inspire and not upon the debt "per capita." This confidence depends in turn upon numerous conditions, among which he enumerates:

1. Economic administration of the country; solution given to questions of finance and credit.
2. Movement of foreign and domestic commerce.
3. Exchange conditions.
4. Payment, more or less easily and regularly, of taxes.
5. Increase or decrease of revenue receipts.
6. Condition of the circulation of government paper, bank notes, and loans.
7. Condition of the floating debt.
8. Financial patronage of such and such a bank or institution of credit.
9. More or less extended market of State securities.

GENERAL CONCLUSIONS.

In summarizing the figures contained in this study, the author classifies the countries as follows:

According to debt per capita.

Bulgaria.
Germany.
Sweden.
Turkey.
Denmark.
Russia.
Servia.
Norway.
Austria-Hungary.
Roumania.
Switzerland.
Greece.
Belgium.
Netherlands.
England.
Italy.
Spain.
Portugal.
France.

According to interest yielded by securities at market value.

England.
France.
Belgium.
Germany.
Netherlands.
Sweden.
Denmark.
Norway.
Switzerland.
Italy.
Austria-Hungary.
Russia.
Roumania.
Spain.
Turkey.
Portugal.
Servia.
Bulgaria.
Greece.

In regard to this classification he says: "The juxtaposition shows this singularity: Bulgaria has the least 'per capita' debt and France the greatest, after which come Portugal, Spain, Italy, England, Netherlands, Belgium, etc. If the 'per capita' argument were of any value, French, English, and Bulgarian securities should be quoted the lowest,

while those of Bulgaria, Servia, Turkey, and Roumania would be the highest. This shows how ridiculous is the 'per capita' argument. It is a legend which the adversaries of our credit should renounce."

He adds: "In a word, the values and interests of securities issued by different States are without doubt momentarily influenced by foreign and domestic questions of politics and economy and by speculation, but when the movements during a long period are studied it is seen that for the most part these values and interests are determined by the financial principles we have cited. The debt, the budget of expenses, and the debt 'per capita' form without exception for European countries incomplete and inexact bases for comparison."

The principles briefly restated by M. Neymarck are for a State—

1. To be master of the market of its own securities.
2. To contract no foreign loans unless absolutely necessary; to give preference to interior loans.
3. To have for its public securities home buyers, automatically, by their purchases, upholding the credit of the country in which they have placed their confidence.
4. To keep account of the productivity of other nations.
5. To keep account of the amount of their economy.
6. To see that the public funds are well administered.

The author closes his interesting and instructive study by a few words concerning the stability of the credit of France and its securities. Before giving what he says upon this subject, however, it may be well to insert the following scale of credits based upon the figures heretofore given by Mr. Neymarck.

Every dollar's worth of securities would cost \$35.20 in 2.5 per cent English consols; \$33.16 in Belgium 3 percents; \$32.80 in French 3 percents; \$32 in Netherlands 3 percents; \$31.30 in Swedish 3 percents; \$30 in German 3 percents; \$29.66 in Danish 3 percents; \$29.60 in Norwegian 3 percents; \$27.40 in Switzerland deferred; \$26 in Italian 4 percents; \$25.50 in Austro-Hungarian 4 percents; \$22.75 in Russian 4 percents (at present); \$22.50 in Spanish 4 percents; \$21.62 in Turkish 4 percents; \$21 in Portuguese 3 percents; \$19.25 in Servian 4 percents; \$18.20 in Bulgarian 5 percents; \$13.80 in Grecian 4 percents.

WHY THE CREDIT OF FRANCE AND ITS SECURITIES MERIT FIRST RANK.

Under this head Mr. Neymarck says:

France has without doubt the greatest public debt and the heaviest fiscal burden of any country, and also a limited population, but nowhere is so clearly proved the truth of the rules we have laid down. Moreover, it possesses the most colossal savings in Europe or in the civilized world. It is with all earnestness that we reaffirm this fact, which all statistics and economic and financial documents confirm. Our

country, which party politics decry and depreciate, is more laborious and economical than all those surrounding it. It has great advantages, in spite of its burdens, to economize, and it saves every year considerable sums—from \$386,000,000 to \$772,000,000.

Since the war the annual savings of France have increased year by year; they have firmly supported the weight of the budget which—\$386,000,000 before the war—passed to \$694,800,000 in 1905, exclusive of the expenses of the communes and departments. The credit of the State rests upon the honesty, loyalty, and fidelity of the country and of the Government itself to fulfill its engagements, and in this respect the nation is inferior to none. The French “rente” is, as we have often said, the signature of France, and no one among us, whatever his political faith, will ever allow it to be protested. Our country owes only itself. It has transferred none of its resources, none of its property, railroads, tobacco, or forests, etc.; it has pawned none of its belongings. From the point of view of capital it is the debtor of no foreign country. It has supplied funds to the whole world. All borrowing countries turn toward its financial market and its annually increasing savings. According to the appropriate expression of the governor of the Bank of France in his annual report for 1902, “France is the banker of the world.”

Our State possesses a national market for its securities, the largest which exists, and which depends upon no other. It has an incomparable clientele of little and big capitalists faithful to state “rentes.” Its stocks, classed in minute detail, registered for more than three-fourths of their total, serve as long and short investments, and its market values and interests, within a few centimes, rank with those of England and Belgium at the head of state securities.

Of those that pretend that French “rente” is too high because the debt “per capita” is so great, it might be asked why they take no notice of the public fortune “per capita.” The answer, in our opinion, is worth no more than the objection, but if one is pleased to speak of debts and liabilities why can not the fortune and assets be spoken of? The personal and landed property of France is estimated at from \$38,600,000,000 to \$40,530,000,000. This fortune represents a “per capita” \$965, while the “per capita” debt is \$173.70, a comparison which clearly shows the falsity of the “per capita” argument when used to emphasize the importance of the public debt.

We estimate ourselves neither better nor worse than we are, and in unceasingly discrediting ourselves we are our own worst enemies. France, a country of toil and economy, is her own mistress. She has supported the greatest misfortunes that can befall a nation; she has come forth with an incomparable courage which we would admire if exhibited by another country. She has retaken her place in the world. Her credit, of which the market values and interests of her State securities are the expression, is of the first rank. It is better than that of Germany, the victor, who made us pay the heaviest ransom of modern times. The credit of France has made marvelous progress in spite of the war of 1870 and the commune. Two figures prove it. In 1870 the highest value of 3 percents had been 75.10, in 1871 securities fell to 50.35 and yielded 6 per cent; to-day the 3 per cent is about at par (at one time above) and yields nearly 3 per cent.

THORNWELL HAYNES, *Consul*.

ROUEN, FRANCE, *February 13, 1905.*

TRADE OF HANAU, GERMANY.

(From United States Consul-General Guenther, Frankfort, Germany.)

Hanau, near Frankfort, is the chief center in Germany of the manufacture of gold and silver ware, and of diamond cutting. Other leading industries are the manufacture of wire and other articles of platinum, leather cases for jewelry and watches, and medium and low priced articles of jewelry and ornaments.

The annual report of the chamber of commerce for the city and district of Hanau has been sent to the Prussian ministry of commerce and was recently published. The following extracts are taken from it:

The year 1904 showed a general advance in the development of business. Most of the principal manufactories of this district report ample and satisfactory employment, also increased sales. But in general there are complaints on account of the advance in the price of raw materials, such as coal, leather, alcohol, platinum ore, etc. It is to be regretted that the advance in prices, owing to intense competition, was not compensated by a corresponding advance in the price of the manufactured articles. Credit conditions have not improved and suffer from insecurity and tardiness in payments. The prevailing movement for commercial combines and formation of trusts may remedy this evil. The year 1904 has brought about many such concentrations, of which we note: The Cement Syndicate, the Associated German Gas Works, the League of Steel Works, the combines of German manufacturers of enameled ware, the coal trust, the Association of German Accident and Security Insurance Companies, and the fusion of electrical works, and chemical manufactories. We recognize and justify the necessity of these combines, which will give good results in regulating production and prices and in checking excessive competition and other abuses which single firms are powerless to correct.

In response to the initiative by the imperial secretary of the interior, the president of the German Commercial Diet addressed an inquiry to this chamber to state its wishes in regard to the formation of a new commercial treaty with Brazil. The chamber in reply urges the reduction of the Brazilian tariff rates on imported cotton and linen embroidery textiles, cotton and woolen goods for shoes, and for textiles in general; also on enameled ware. Germany must, at all events, obtain from Brazil the most-favored-nation clause, because the preferential tariff rates which Brazil has accorded to the United States cripple in a considerable measure Germany's exports to Brazil. The Brazilian customs rates should be put on a fixed basis so as not to force importers to pay in gold where paper currency has been accepted.

The St. Louis Exposition afforded a good opportunity for the exhibition of the gold and silver ware industries of Hanau, but these world's fairs, in their present form, are worn-out. Especially, so far as the United States is concerned, they present a contradiction in this, that the United States invites the whole world to participate, but has not the slightest thought of enabling other nations to sell their goods in the American market, made difficult by high tariff rates and customs chicaneries. In addition foreign exhibitors run the risk of having their designs copied. It is significant that neither the Hanau nor

other industries have, as far as we can learn, succeeded in obtaining business by exhibiting at St. Louis.

The chamber views with anxiety the new high-tariff policy of the German Government whereby the importation of important raw materials and of the indispensable necessities of life is made difficult or checked; it also expresses fears of retaliatory measures which are likely to be adopted by foreign nations. The chamber maintains that the wonderful progress attained by Germany within the last twenty-five years, unparalleled by any other nation, the United States excepted, is due to the industry and circumspection of her merchants, to the proficiency of her manufacturers, and to the strengthening of her capitalistic power. But this course can be continued and her position in the future be secured only so long as Germany's commercial, economic, and political relations with the outside world are not disturbed, and so long as her production and exportation are kept up and her financial and laboring forces find profitable and steady employment.

The report says that the establishments engaged in diamond cutting had full employment during 1904, there being a lack of workmen even after wages had been advanced 10 per cent. It is confidently expected that the exports of diamonds and other precious stones to the United States will increase in 1905.

The platinum industries had plenty of orders and prices advanced, owing to a scarcity of the raw material. The platinum manufacturers have also taken up the production of aluminum wares and of gold preparations and colors for ceramic industries. The manufacture of articles from quartz glass is developing well. The export of jewelry cases has increased, especially to South America. The exportation of German enameled ware is imperiled because the price of the raw material (iron plate) is kept up by the combine of German iron plate works, while foreign manufacturers of enameled ware buy the plate 15 to 20 per cent cheaper, enabling them to undersell German competitors in neutral markets.

The number of scholars attending the technical schools of Hanau in 1904 were as follows: The Royal Drawing Academy at Hanau, which gives technical instruction in the manufacture of gold and silver ware, 342; City Finishing School, for trades and crafts, 677; Trades Finishing School at Fulda (Hanau district), 456; Trades Finishing School at Gelnhausen (Hanau district), 141; that of Huenfeld, 35, and that of Orb, 75. There is another trade school at Schluechtern, for which the number of scholars is not stated.

The report notes the award of the grand prize and gold medal to the Hanau gold and silver ware manufacturers (Royal Drawing School) for their exhibits at the St. Louis Exposition.

RICHARD GUENTHER, *Consul-General.*

FRANKFORT, GERMANY, *March 4, 1905.*

EMIGRATION FROM CROATIA-SLAVONIA TO THE UNITED STATES.

Under date of March 25, 1905, United States Consul-General Frank Dyer Chester, Budapest, Hungary, transmits the following translation of the latest order issued by the provincial government of Croatia-Slavonia, relative to emigration to the United States:

It has come to the knowledge of the royal provincial government, section for internal affairs, that the emigration from Europe to North America has taken on such proportions that the ships arriving in New York with emigrants are obliged to wait several days in the port until the emigrants can undergo examination by the Immigration Commission. Many emigrants are forbidden to land by the Immigration Commission, and are forced to return home either under the American immigration law communicated to you with my circular ordinance of October 21, 1903, No. 88261, as contract laborers, or as not having the correct addresses of their acquaintances or relatives to whom they were directed. You are called upon herewith to please warn travelers of this circumstance, and in a proper manner to inform the population of the fact that labor conditions in the United States are at present unfavorable.

NOTES.

Foreign Trade of Germany.—The foreign trade of Germany for 1904 was as follows: Imports, 6,788,800,000 marks (\$1,615,734,400), exceeding imports of 1903 by 467,600,000 marks (\$111,288,800); exports, 5,259,400,000 marks (\$1,251,737,200), 129,100,000 marks (\$30,725,800) more than the exports of 1903. Germany's imports have for many years past greatly exceeded in value its exports, which would indicate that the country is getting behindhand, but the fact is Germany is gaining in wealth year by year. The unfavorable balance in its foreign trade is more than made up by the immense sums which German capital—invested in railroads, mining and manufacturing enterprises, and loans to States, cities, and corporations—earns and draws from foreign countries. Besides this its merchant marine earns many millions in the ocean carrying trade. These large investments abroad and their earnings make Germany a creditor country.—*Richard Guenther, Consul-General, Frankfort, Germany, February 2, 1905.*

Wheat Imports into Spain.—Under date of February 10, 1905. United States Consul R. M. Bartleman, Seville, Spain, transmits the following customs returns as published in *Revista de Economia y Hacienda*, covering the imports of wheat into Spain in 1902, 1903, and 1904:

Imports of wheat into Spain from the several countries in 1902, 1903, and 1904.

Country.	1902.	1903.	1904.
	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
United States.....	\$1,474	9,566	198,570
France.....	6,060	289	125,865
Roumania.....			5,454,757
Russia.....	2,182,842	2,962,885	2,388,717
Other countries.....	336,170	373,407	
Total.....	2,556,546	3,336,167	8,162,909

Gold Deposits in the Scotch Highlands.—The discovery of gold in alluvial deposits in the Scottish highlands is reported. It is stated that a serious effort was made to work the alluvial deposits at Kildonan, in Sutherlandshire, men being employed to wash for gold with cradles, but the attempt proving unprofitable was soon abandoned.

Some wild reports are now afloat of rich finds of gold-bearing quartz in the neighboring shire of Ross, and it is said that specimens have been obtained showing a $3\frac{1}{2}$ percentage of gold. The credit of the discovery is given to a German scientist, who was geologizing in the most inaccessible parts of the shire.—*Frank W. Mahin, Consul, Nottingham, England, February 10, 1905.*

Argentine Affairs.—The Buenos Aires correspondents of German trade papers speak in glowing terms of the prosperity now existing throughout Argentina. The customs and internal-revenue receipts show large gains, and the value of real estate is augmenting. The number of immigrants has been increasing during recent months; the coming crops are very promising, and wool and other staple products are bringing good prices. The Argentine minister of foreign affairs has issued an order abolishing a number of consulates in Germany, Austria, Belgium, Italy, and Portugal.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 2, 1905.*

Halifax Imperial Dockyard.—It is now announced that the imperial dockyard at Halifax, which was established in 1758, is not to be dismantled or abandoned as was recently reported. The dockyard merely passes to the control of the Dominion government.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 3, 1905.*

German-Argentina Trade.—German trade papers express the existing anxiety of German manufacturing and exporting circles concerning their interests in trade with Argentina in the probable event of the refusal of Germany to continue the "most-favored-nation clause" therewith. They fear a great decline in Germany's exports to that Republic if the clause is abrogated. In 1903 Argentina imported German merchandise to the value of nearly \$17,000,000, of which \$5,000,000 represented metal wares, an excess of \$2,075,000 over 1902 in that line of goods. German exports to Argentina within the last decade have increased about 140 per cent. If a tariff war were to arise between the two countries, Germany would quickly lose the favorable position which her goods have attained in the Argentine markets, and might never regain it.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 8, 1905.*

Condition of German Colonies.—Privy Councilor Wohlmann has contributed a magazine article on the German colonies, which, he says,

on the whole, are working satisfactorily, with the exception of South-west Africa, where the natives are in insurrection. He estimates that the expenses of this colony will reach \$71,400,000 by the time the insurrection is put down, a sum which will never be repaid by the colonies to the German Government or people. Professor Wohlmann considers cotton culture in Togo to be the greatest achievement of the German colonies. During 1904, 220,000 pounds of cotton were exported therefrom. Rubber-tree and cocoa plantations have increased in Kameroun, and the plantation companies in Samoa and New Guinea are prospering.—*Richard Guenther, Consul-General, Frankfort, Germany, January 31, 1905.*

Imports at Para.—The German consul at Para, Brazil, states that the imports at that port have considerably increased; that shipments of German iron and steel ware and machines show large gains; that imports from England in these lines have diminished, and that one-half of the entire increase in imports is from the United States, consisting principally of petroleum, motors, revolvers, tools and implements, knives, lamps, stoves, and railroad materials.—*Richard Guenther, Consul-General, Frankfort, Germany, February 13, 1905.*

Parcels Post and French Foreign Trade.—The exports from France in 1904 amounted to 4,475,500,000 francs (\$864,771,500), of which the goods sent by parcels post amounted to 316,700,000 francs (\$61,123,100).—*Richard Guenther, Consul-General, Frankfort, Germany, January 31, 1905.*

Agricultural Machines in Spain.—The Spanish Government will establish an experimental station at the Institute Agricola de Alfonso XII, where the quality and working capacity of agricultural machines and implements are to be tested and official certificates of the results issued. Apply to the "Director General de Agricultura," Madrid, Spain.—*Richard Guenther, Consul-General, Frankfort, Germany, February 13, 1905.*

Agricultural Implements in the Netherlands.—Under date of February 13, 1905, Consul-General Richard Guenther, of Frankfort, Germany, reports the establishment of the following new agricultural banks, and suggests that it might be well for our exporters of agricultural implements to communicate with them: Cooperative Boevenleenbank, Schoorl; the Cooperative Boevenleenbank, Edam; and the Cooperative Onderlinge Spar-en Voorschotbank, Broek op Langendyk.

Bicycles in Switzerland.—The last annual report of the British commercial attaché states that Switzerland imported 17,500 bicycles in 1904, most of which came from Germany. The reason German and French goods predominate over English products in the Swiss markets is that German and French manufacturers send representatives to Switzerland, who promptly furnish details as to the wares wanted, transportation costs, etc., and frequently get up expositions in order to make the Swiss public familiar with their goods. As long as English exporters do not practice these methods, says the attaché, they can not count upon doing more business in the Swiss market.—*Richard Guenther, Consul-General, Frankfort, Germany, January 27, 1905.*

German Interests in Venezuela.—German papers claim that 20,000,000 marks (\$5,760,000) of German capital is invested in real estate in Venezuela, and that the bulk of the foreign trade of the Republic is transacted by Germans, of whom about 2,000 reside in the country. Forty large German firms are engaged in trade there. In Caracas they have their own schools, clubs, and societies, and a newspaper published in German. The further claim is made that the Germans have built the railroads, and that the manufacturing establishments in the Republic have been organized and are carried on by Germans.—*Richard Guenther, Consul-General, Frankfort, Germany, January 27, 1905.*

Tapeworm as a Preventive of Tuberculosis.—The Mexican consul-general at Buenos Aires informs his Government that by a late scientific discovery it has been proved that the tapeworm is the natural enemy of the germ of consumption, and that the latter can not exist when the other is present. He further says that the eminent scientists L. James and H. Maudoul, after a profound study of the subject, assert this as a fact in a paper recently laid before the Academy of Science, at Paris. The tapeworm is said to prevent the organism from being infected with tuberculosis bacilli, and it has been proved in the case of a consumptive affected with tapeworm that he completely recovered his health. To positively establish the efficacy of this remedy, the doctors injected a liquid prepared from the tænia into several consumptives, which action resulted in retarding the progress of the disease in the worst cases, while in others it resulted in a complete cure.—*William W. Canada, Consul, Veracruz, Mexico, March 2, 1905.*

German Ships in Italian Harbors.—In 1904 the number of passengers landed in Naples from German and Austrian ships was 43,145. Of this number 28,449 were carried by the North German Lloyd,

10,561 by the Hamburg-American, and 4,135 by the Austrian Lloyd lines. In comparison with these figures the number of passengers landed at the same port from Italian vessels was 35,178, from English vessels 33,159, and from vessels of divers nations 5,464. The two great German lines alone discharged 39,010 passengers, or more than the vessels of any other nation. These figures in themselves may not mean a great deal, but they plainly show that the German merchant marine, so far as the carrying trade from port to port in the Mediterranean is concerned, has practically outdistanced the merchant vessels of England and France.—*Ernest L. Harris, Commercial Agent, Eibenstein, Germany, February 22, 1905.*

Prize for Botanical Composition.—The Frankfort News states that the prize founded in honor of the celebrated Geneva family of botanists, De Candolle, is now offered by the physics and natural history society, of Geneva, Switzerland. The subject will always be a description of a species or family of plants. Members of the society are not permitted to compete, and limitations as to nationality are not made. The essays may be written in Latin, German, French, English, or Italian, and must be transmitted to the president of the society before January 16, 1906.—*Richard Guenther, Consul-General, Frankfort, Germany, February 8, 1905.*

Canadian Steel Rail Bounties.—The Canadian steel rail industry is now receiving from the government the following bounties: (1) A bounty on pig iron manufactured from Canadian ore 75 per cent of \$3 per ton and 75 per cent of \$2 on foreign ores; (2) a bounty of 75 per cent of \$3 on steel ingots manufactured from ingredients of which not less than 50 per cent of their weight consists of pig iron made in Canada. The bounty mentioned makes a total maximum of \$6.75 per ton on all steel rails produced in the fiscal year 1905, \$4.95 in 1906, and \$3.15 in 1907. The customs duty on steel rails, which went into full effect on November 30, 1904, is \$7 per ton. Under the antidumping clause, if rails are sold for Canadian consumption at less price than the market price in the country of production, a further special duty equal to the amount of the cut in price (but not to exceed one-half of the regular customs duty) may be imposed, i. e., the special duty may amount under the above conditions to \$3.50 per ton.—*John G. Foster, Consul-General, Ottawa, Ontario, February 20, 1905.*

Russian Sample Warerooms in Paris.—Under date of February 13, 1905, United States Consul-General Richard Guenther, of Frankfort, Germany, reports that sample warerooms for the exhibition of articles of Russian manufacture have recently been opened at 11 Ave-

nue de l'Opera, Paris. Among the exhibits are carved woodenware, musical instruments, majolica and silver ware, laces and embroideries, toys, dolls in Russian costumes, etc.

Pearl Beds of Costa Rica.—By a decree of February 8, 1905, the Government of Costa Rica has suspended the exploitation of the pearl beds on the Pacific coast of this Republic for the period of one year from date of publication of the decree. This step is taken to enable the Government to make a more thorough examination of the beds and prescribe more stringent regulations for their preservation.—*John C. Caldwell, Consul, San Jose, Costa Rica, February 13, 1905.*

Automobile and Bicycle Exposition in Frankfort.—The German Automobile Club and the automobile manufacturers of Germany are planning to hold an automobile and bicycle exposition in Frankfort, October 6 to 15, 1905.—*Richard Guenther, Consul-General, Frankfort, Germany, February 13, 1905.*

Fodder Famine in Hungary.—The Hungarian minister of agriculture has just informed the county governors that he will supply needy farmers with pressed hay at the fixed price of 7 crowns (\$1.42) per metercentner (220.46 pounds) freight to be paid by the Government; also potatoes for seeding for 5½ crowns (\$1.10) per metercentner. The first shipment of maize from the United States—1,400 tons—will arrive by steamship *Eros* of the Austro-American line in Fiume, the port of Hungary. Shipments from Argentina are still coming in.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, February 23, 1905.*

New Street-Sweeping Machine.—The city authorities for the maintenance of streets in Milan have adopted by way of trial a new German street-sweeping machine, made at Düsseldorf, which, while thoroughly cleaning the streets, does away with the inconvenience caused by the dust being raised when disturbed, all dust being removed with other refuse. If the new brush accomplishes what is expected, the street department will give an order for nine other machines. American manufacturers of street-cleaning machines should give the cities of southern Europe especial attention.—*Harlan W. Brush, Consul, Milan, Italy, February 10, 1905.*

Iron Ore Output of Germany.—According to statistics just received by the public, the gross production of iron ore in the year 1904 in Germany and the Grand Duchy of Luxemburg amounted to

10,103,941 metric tons, against 10,085,634 metric tons in 1903. The yield of the ore-bearing regions varied considerably in the two years. In the Kingdom of Saxony no iron ore whatever was mined in 1904. The slight gain in the gross output of the year was entirely made during the month of December, 1904, and lifted the past year to first position as to productiveness.—*Hugo Muench, Consul, Plauen, Germany, January 26, 1905.*

International Postage Stamps.—The Hamburg Chamber of Commerce, in its last annual report, asks the German Government to bring about the issuance of an international postage stamp. At present many letters of inquiry from foreign countries remain unanswered because they lack franking stamps for the reply letters. This suggestion should receive the favorable consideration of the International Postal Union as in the interest of international commerce.—*Richard Guenther, Consul-General, Frankfort, Germany, February 21, 1905.*

Proposed Dam in Ontario.—The Backus-Brooks Lumber Company, of Minneapolis, propose to build a dam across the Rainy River at Fort Francis, Ontario. Details of the work may be had by applying to the engineer, J. H. Wallace, Temple Court Building, New York City.—*S. H. Shank, Consul, Winnipeg, Manitoba, March 2, 1905.*

New Varieties of Cotton.—At the exposition at Melbourne, Australia, two new varieties of cotton plants were exhibited, the products of which are interesting Italian cotton industrial circles. The first variety, known as Caravonica I, produces a linen-like cotton, the estimated value of which is said to be 20 cents per pound. The other variety is known as Caravonica II, and produces a silky cotton of a commercial value of 24 cents per pound.—*Harlan W. Brush, Consul, Milan, Italy, February 10, 1905.*

American Flour for Spain.—Several merchants have asked me where and of whom they can buy American flour for importation into Andalusia. If anyone wishing details will write to me I will be glad to furnish all desired information.—*M. M. Price, Commercial Agent, Jerez de la Frontera, Spain, March 2, 1905.*

Great African Telegraph Line.—German papers state that the telegraph line which is to run from the Cape to Cairo, the length of the continent of Africa, has reached, from the south, Udshidshi,

on the shores of the Tanganyika Lake, in German East Africa. A survey is now to be made to find the best connecting route with the north, and the line already established is to be examined and improved. It is presumed that the communicating link will run along the east shore of the great Victoria Lake, thence in a northerly direction reach Rosares, at present the last telegraph station in the Sudan. Considerable difficulties will have to be overcome, as a swamp 100 miles in length exists north of Udshidshi, where it will be very difficult to run a reliable air line. It was intended to run around this swamp, but now it has been determined to utilize wireless telegraphy for communication across, which, however, will probably be only a temporary affair, as the wireless telegraph appears to be unreliable in the Tropics, and would also decrease the efficiency of the great trans-African telegraph line.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 23, 1905.*

Celluloid Articles in Canadian Mails.—The Canadian Gazette says the postmaster-general has had under consideration the liability of articles of celluloid to explode or catch fire under certain conditions, cases having occurred that strongly pointed to mails being injured from this cause. It has been decided that such articles may in future be mailed only if packed in tin boxes with closely fitting lids. Notice is therefore given that celluloid is regarded by the postal authorities as an explosive, and the mailing of such articles, except as prescribed, is prohibited, and renders the sender liable to prosecution under section P of the post-office act relating to the sending of explosives, matches, etc., in the mails.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 9, 1905.*

Decline of Canadian Exports.—The latest blue book of the trade and navigation returns for the Dominion, issued by the Department of Customs, which covers the six months ended December 31, 1904, shows a decided falling off in the exports of domestic merchandise. The exports for the six months ended December 31, 1903, were \$122,983,994, against \$113,239,216 for the six months ended December 31, 1904, a decrease of \$9,744,778.—*James H. Worman, Consul, Three Rivers, Quebec, March 7, 1905.*

Cocoa Drying Machine.—Gen. Raimundo Fonseca, reputed to be the largest grower of cocoa in Venezuela, has announced in a letter published in El Constitucional, of Caracas, that he has installed on his property at Ocumare de la Costa a machine for the drying of cocoa,

which he brings to the notice of the growers of that product as one that dries the fruit in a very short time and presents the grain in perfect condition and thoroughly cleaned or polished. The purchaser has also expressed his satisfaction with its work in a letter to the makers. The machine is said to be the first of its kind introduced into Venezuela.—*Jerome B. Peterson, Consul, Puerto Cabello, Venezuela, February 23, 1905.*

Decrease in Births in Belgium.—While the population of Belgium is steadily increasing, its continual birth decrease is attracting attention. The table of births shows that in 1830 the birth rate was 32.30 per 1,000 of the population, while in 1902 it had dropped to 28.40. In nearly all the communes of 40,000 population or over the present birth rate is less than that of 1880.—*James C. McNally, Consul, Liege, Belgium, February 25, 1905.*

Gold Mining in Uruguay.—During the six months ended December 31, 1904, there were mined in Uruguay 9,058½ tons of ore, which yielded 29,768 kilograms (61.61 pounds) of gold, valued at \$12,684. The mines are situated at Cuñaperú and are operated by a French company, which pays the Government one-half of 1 per cent.—*John E. Hopley, Consul, Montevideo, Uruguay, February 2, 1905.*

Consolidation of Canadian Cotton Manufacturers.—The consolidation was announced during January of the Dominion Cotton Company, the Merchants Cotton Company, the Montmorency Cotton Company, and the Colonial Bleaching and Printing Company, with a total capitalization of \$10,000,000, in 7 per cent bonds and 6 per cent preferred and common stock, the new corporation to be known as the Dominion Textile Company. The number of hands employed by the four companies throughout the year is said to be 6,150. The Dominion Cotton Mills Company has factories in Montreal, Kingston, Windsor, Nova Scotia, Halifax, Moncton, and Magog, with a total of about 200,000 spindles in operation. The Montmorency Cotton Company, situated at Montmorency Falls, operates about 600,000 spindles and 850 looms. In the Merchants Cotton Mill, situated at St. Henri, Quebec, there are 110,000 spindles and 2,500 looms at work. The special work done by the Colonial Bleaching and Printing Company, of St. Henri, is the printing and dyeing of cotton goods. A number of the larger consumers of cotton in Canada are interested in the merger.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 7, 1905.*

American Industrial Plants in Canada.—The Edison Sault Electric Company, Sault Ste. Marie, Mich., will erect a large power plant at St. Marys Rapids. An expenditure of \$120,000 will be made this year.

The American Horseshoe Company is considering the erection of a plant at Hamilton, Ontario.

The American Chicle Company, Toronto, will erect a factory at a cost of about \$30,000 to manufacture chewing gum.

It is reported that an American syndicate is negotiating for the purchase of a controlling interest in the E. B. Eddy Company, Hull, Quebec, the purchase price to be \$4,000,000.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 9, 1905.*

Agricultural Contracts in Venezuela.—Under date of February 23, 1905, United States Consul Jerome B. Peterson, Puerto Cabello, Venezuela, reports that according to the Boletín de Noticias of Puerto Cabello, Señor Jaime Felipe Carrillo has closed a contract with the minister of fomento, for the term of fifty years, to establish in the State of Carabobo "Centrales" (plantations grouped around a central headquarters) for raising on a large scale various kinds of agricultural products. The principal products will be sugar cane and textile plants for consumption in Venezuela and for export.

Spanish Sugar Trust.—The operations of the Sociedad General Azucarera de España are beginning to attract the attention of the Spanish press. This company is referred to as the sugar trust. It is announced that the trust has recently sold for exportation 6,000 tons of sugar at the price of 52 pesetas (\$7.54)^a per 100 kilograms (220.46 pounds) f. o. b. Spain, this being less than the cost of production, if the Government tax of 25 pesetas (\$3.62) per 100 kilograms is included. The claim is therefore made that the tax in question was rebated, and as a consequence the press has attacked the trust and is demanding an investigation. The wholesale price of sugar in Spain, with the Government tax added, is from 112 to 115 pesetas (\$16.24 to \$16.68) per 100 kilograms. I have been unable to ascertain to what countries the sugar in question is to be exported, but it seems clear, according to all reports, that the trust is trying to dispose of its surplus stock abroad.—*Benj. H. Ridgely, Consul-General, Barcelona, Spain, February 23, 1905.*

Motor Omnibuses and Tramcars in England.—Under date of February 22, 1905, United States Consul-General H. Clay Evans, London, transmits the following extract from the London Daily Express

^a The Consul-General estimates the value of the peseta at 14½ cents.

of the same date, relative to the cost of running motor omnibuses and tramcars:

The chairman of the highways committee of the London county council stated at yesterday's meeting that the cost of running motor omnibuses carrying 34 passengers was from 11d. to 1s. (22 to 24 cents) per car mile, while that for electric tramcars, carrying from 50 to 70 passengers, was but 5d. to 6d. (10 to 12 cents).

The charge that the tramways were supported out of the rates was ridiculous, he declared, because not only did the tramways pay rates, but they maintained the carriage way to 18 inches on either side of the line. Motor omnibuses, on the other hand, ran over this track, maintained by the ratepayers, and paid nothing for the privilege.

Electric Power for Spinning Mills.—An innovation in Lancashire is exciting much interest among manufacturers. The press announces that a new spinning mill in that county, operating 84,000 spindles, is not only to be lighted but also driven entirely by electricity. This will be the first establishment of the kind to be so operated. As the supply of electricity is to be obtained from the mains of an electric power company, the experiment has a double value—testing the feasibility of electric power in a great spinning factory and also the practicability of an outside source of power supply in such cases.—*Frank W. Muhin, Consul, Nottingham, England, February 24, 1905.*

Assisted Emigration from England.—Under date of March 7, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, reports that £5,000 (\$24,332.50), collected by the Daily Telegraph newspaper, of London, for the relief of the poor of West Ham, has been devoted by the proprietors to the assistance of emigration to Canada. It has been divided—£2,000 (\$9,733) to the Salvation Army and £3,000 (\$14,599.50) to assist emigrants who are able to a certain extent to help themselves. It is announced that the arrangement covers the possibility of sending to Canada in the spring 700 families from West Ham, comprising 3,000 to 3,500 persons.

Agricultural Machines Needed in India.—My attention has been called to the slow and wasteful harvesting in India. The thrashing is done by hand, or by bullocks treading out the grain, and the winnowing is done by hand. Both processes are slow and wasteful. Thrashing and winnowing machines adapted to this country, capable of being moved from place to place, as farms are small, would, I think, prove a great success. Some of our manufacturers of agricultural machines should send experts here to study the situation. If economy in harvesting were introduced much larger crops could be raised and saved.

It would seem to be a simple thing for our manufacturers to take advantage of the conditions here and to reap a rich harvest for themselves.—*R. T. Patterson, Consul-General, Calcutta, British India, February 2, 1905.*

New Bobbin for Spinning.—Bobbins used in spinning are usually made either entirely of metal or paper, preference being given to the former on account of its smoothness and strength. Yet metal presents a certain disadvantage by reason of its weight and high price. It is for this reason that paper often takes its place, notwithstanding lack of solidity and a tendency to gather moisture. These disadvantages disappear in the new paper bobbins, which are metal coated, light in weight, and very strong. The process patented by Mr. Rudolf Hassler, of Augsburg, Germany, is as follows: The paper bobbins are first given a rubber or other coating that renders them proof against the action of fluids or acids. This bath may be repeated until the rubber coating attains the desired thickness. The bobbins are then rubbed with spirits of turpentine, that prepares them to receive a coating of metal dust or fine graphite in the manner in vogue in galvanizing. They are once more polished to render them as smooth as possible and plunged into galvanic baths of whatever metal coating may be desired. A regular surface of any desired thickness is thus obtained, and the result is a bobbin light in weight and impermeable to moisture or the action of acids.—*W. P. Atwell, Consul, Roubaix, France, March 7, 1905.*

Import Trade of Egypt.—Under date of February 20, 1905, Consul-General Guenther, of Frankfort, Germany, reports as follows:

In a report from the expert of the Austrian department of commerce concerning importations into Egypt appears the following:

In the period 1884–1903 Great Britain's share in Egypt's importation has fallen from 37.8 to 35.3 per cent; Turkey's share, from 19.4 to 14 per cent; the share of France, from 11.2 to 9.8 per cent; Austria-Hungary's from 12.2 to 7.3 per cent.

Among the countries which have increased their share in Egypt's import trade are Belgium, from 0.8 to 3.1 per cent; Germany, from 0.3 in 1887 to 4.4 per cent in 1903; Italy, from 3 per cent in 1896 to 5.5 per cent in 1903. It is noteworthy that the United States, which in 1899 and 1900 made a strong attempt to conquer the Egyptian market, has not been able to maintain its position, and the American exports to Egypt, as also to other Turkish places, have been allowed to retrograde.

Traffic Through the Suez Canal in January, 1905.—Under date of February 11, 1905, United States Agent and Consul-General Riddle, Cairo, Egypt, transmits a table showing the traffic through the

Suez Canal for the month of January, 1905, from which it appears that 176 vessels of 507,905 tons passed from Port Said to Suez, and 169 vessels of 530,451 tons from Suez to Port Said, making a total for the month of 345 vessels and 1,038,356 tons. The nationality of the vessels is not given.

Foreign Prizes.—Under date of February 28, 1905, United States Consul-General Richard Guenther, Frankfort, Germany, transmits the following:

France.—The French press has raised \$28,950 which is to be awarded as a prize to the winner of the automobile race which is to come off next June at Aix les Bains.

Switzerland.—The International Bureau of Labor at Basel offers the following prizes for the best treatises on the following subjects:

Prevention of danger in exploiting and preparing lead ores, \$1,200.

Obviating danger from working the metal in lead works, \$2,400.

Two best treatises on prevention of danger in the chemical use of lead in lead works, accumulator factories, etc., \$600 and \$350.

Nine prizes; ranging from \$178 to \$357, on obviating or removing the danger from lead poisoning in the trades where lead is used, such as painting, type casting, printing, etc.

New Railway in Nicaragua.—The Government of Nicaragua has just made a contract with Mr. Julio Wiest, an engineer of long and honorable standing here, to construct a railroad from San Miguelito, on Lake Nicaragua, to Monkey Point, on the Caribbean Sea.^a The Government is to furnish the funds, payable to Mr. Wiest, as the work progresses, at the rate of \$20,000 gold per month. Mr. Wiest has furnished his bond for that amount and begins work immediately, guaranteeing to deliver the road completed in four years.—*Chester Donaldson, Consul, Managua, Nicaragua, February 1, 1905.*

Roumanian-Black Sea Service to Athens and Smyrna.—Arrangements have just been concluded for extending to Athens and Smyrna the existing biweekly service between Berlin and Constantinople by means of through trains from Berlin to Constanza (Kustendje) and Roumanian steamers on the Black Sea to Constantinople. Once a week the Roumanian steamer will go on to Smyrna, and once a week it will come to the Piræus. It is expected that the new service will begin in about a month, and will, once a week at least, cover

^aTranslation of contract on file in the Bureau of Statistics, Department of Commerce and Labor.

the distance between Athens and Berlin in a little less than three days, as the newest Roumanian steamer is capable of running from the Piræus to Constantinople in less than twenty-four hours. This is a full day less than is required at present. The idea is to extend the service to Alexandria as soon as practicable, which will make it the shortest mail route to India from Germany and even England. It is another evidence of the consistent and intelligent policy of Germany to increase her influence in the East, as well as of the enterprise of the Roumanians.—*John B. Jackson, Minister, Athens, Greece, March 12, 1905.*

Railway Construction in Peru.—I transmit herewith copies and a translation of a contract^a entered into February 4, 1905, between the Government of Peru and Henry Duncan Lewis MacDougall, for the construction of a railway from Chorrillos to Pisco. The terms of this contract differ in substantial particulars from the act of Congress, which I forwarded the Department with my No. 889 of April 2, 1904. In consequence the new contract will have to receive Congressional sanction before it can become operative. Mr. MacDougall is understood to be the representative of the English company which owns and operates the railway line between Lima and Chorrillos. The subsidy granted is £500,000 (\$24,332,500), payable in half-yearly installments of £10,000 (\$48,665) each during a period of twenty-five years.—*Irving B. Dudley, Minister, Lima, Peru, February 10, 1905.*

Canadian Canals Toll-Free.—The Canadian government has decided to remit the tolls on its canals for another year. The experiment of permitting the free use of canals, made last year at the instance of Canadian grain shippers, had a beneficial effect upon transportation rates. It is claimed also that it had the effect of diverting to Canadian channels and to the port of Montreal a large portion of the grain business which was previously done by way of Buffalo to New York, Boston, and Philadelphia.—*P. Gorman, Vice-Consul-General, Montreal, Canada, March 11, 1905.*

Railway Extension in Servia.—It is announced that the Servian Government has decided to begin work on its plan of railway extension at once, by constructing a line from Radujewatz, on the Danube, near the Bulgarian frontier, to Ushitze, a place in the mountains not far from where Servia, Bosnia, and Novi Bazar touch each other. This line will traverse Servia from northeast to southwest, and will

^a Contract on file in the Bureau of Statistics, Department of Commerce and Labor.

be of commercial as well as strategic importance. At present the only railway line in Servia is the main line from Belgrade to Nisch, with short branches to Semendria, on the Danube, at the mouth of the Morawa River, and to Kragujewatz, in the mountains to the south. At Nisch the line divides, one branch being the main line to Constantinople via Sofia and the other going by way of Vranja and Uskub to the sea at Salonika. The new line will be about 600 kilometers (373 miles) long.—*John B. Jackson, Minister, Athens, Greece, March 1, 1905.*

American and Canadian Hay for Export.—Under date of March 14, 1905, United States Consul-General W. R. Holloway, Halifax, Nova Scotia, transmits the following report made by Mr. Edgar Tripp, commercial agent of Canada at Trinidad, British West Indies:

As an instance of the unavoidable errors likely to creep into comparative statements of the trade of the Dominion and the United States, the statistics regarding hay may be quoted. The total value imported into Trinidad for the year ended March 31, 1904, was, according to the customs returns, £3,334 [\$16,225], of which £2,793 [\$13,592] came from the States.

In this regard one of the principal exporters from New York to the West Indies writes me: "The only hay that can be exported profitably from New York is the hay we buy in Canada, which comes through in carload lots of about 150 bales, weighing 140 to 150 pounds apiece." These remarks apply to many other articles.

Chilean Imports of Dyes and Inks.—The commercial expert attached to the German consulate-general at Valparaiso, in a report to his Government, speaks of the Chilean importation of dyes and inks. He says that prepared colors and writing ink of United States manufacture have of late made strong competition to German and English manufactures in the markets of Chile. The importation of printer's ink and of lithographic and typewriting inks from the United States is steadily increasing.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 20, 1905.*

American and British Electrical Engineers.—Under date of February 20, 1905, United States Consul Marshal Halstead, Birmingham, England, transmits the following extract from the Daily Post, of even date, of that city, wherein one of the attachés of the paper, commenting on an address delivered by Dr. D. K. Morris, before the Birmingham electrical engineers, on "America and Americans at work," says:

I remember a conversation that I was privileged to have with Doctor Morris on his return from the St. Louis Exhibition. He seemed to

think that the reasons American electrical engineering work is so much in advance of anything done over here are simply those arising from the greater scale of their work. Out there there is great distance and quantity of power transmission and larger traction problems. We discussed the advantages and disadvantages of great industrial organizations, such as the great General Electric and Westinghouse companies. One of the disadvantages seems to be that they incline to retain well-tryed but obsolete methods. As an example, it is noticeable that they persist in using two-phase alternating current plant. Doctor Morris, if I remember rightly, believed that the advantages were similar to those which he has noticed on the Continent. These include the perfection of single-phase alternating current plant for traction purposes, the working at very high voltages, and the perfection of the steam turbine. It is a significant fact that in the applied science section at the Birmingham University Professors Burstall, Turner, Redmayne, and Hummel, as well as Doctor Morris, have visited and studied the methods of the United States.

British Imports of Autos and Motor Cycles.—Under date of February 18, 1905, United States Consul J. F. Monaghan, Chemnitz, Germany, transmits the following: The United Kingdom imported during the first eleven months of 1904, 6,142 auto and motor cycle machines, of a total value of £2,352,520 (\$11,448,538).

Imports into the United Kingdom of autos and motor cycles during the eleven months ended November 30, 1904.

Article.	Number.	Value.	
Automobiles.....	5,167	£1,982,483	\$9,647,752
Parts of same.....		322,884	1,571,315
Motor bicycles.....	975	80,776	149,771
Parts of same.....		16,377	79,690
Total.....		2,352,520	11,448,528

Sugar Beets in Ireland.—The department of agriculture, in reply to an inquiry by a Clonmel correspondent, states that Irish farmers can not profitably undertake the growing of sugar beets, and that the circumstances do not warrant the starting of the industry in Ireland with any prospect of profit. It points out that a sugar factory would require a minimum production of 40,000 tons per year. This would require 2,500 acres to be devoted to the crop yearly, and because of the necessity for a four years' rotation of crops 10,000 acres in all would be necessary. The reply points out to the farmers that the cost of tillage would be heavy, as very deep plowing or subsoiling must be employed, while much more hard labor is required for sugar beets than for other root crops. In the department's opinion a yield of 15 tons of beets per acre, at even as high a price as \$4.38 per ton, would be less profitable to the farmer than the cultivation of turnips or mangolds.—*S. S. Knabenshue, Consul, Belfast, Ireland, March 9, 1905.*

Docks, Wharves, etc., in the United Kingdom.—In transmitting a printed copy of regulations as to docks, wharves, etc., in the United Kingdom, the American minister to England (Mr. Choate), under date of London, March 15, 1905, says:

It appears from the note in question that in so far as these regulations relate to ships lying in docks, etc., they will apply equally to foreign and to British ships, and that copies of the regulations have been forwarded to His Majesty's representatives abroad and to His Majesty's consular officers at seaports or having seaports in their districts, in order that, as far as possible, foreign shipowners and shipmasters trading to this country may be acquainted with their provisions.

It appears also that foreign shipowners who occupy appropriated berths at docks in the United Kingdom, so far as they are known, have been served with the regulations in the usual way.

The copy of the regulations transmitted by the minister is on file in the Bureau of Statistics, Department of Commerce and Labor.

First Patent in China.—The Chinese Government, according to German papers, has granted its first patent. It is for an electric lamp, the inventor of which is an inhabitant of Nankin, the old capital of the Chinese Empire, who calls his lamp the "bright moonlight," and asserts that it is far superior to foreign glow lights that hitherto have been sold at Shanghai and other Chinese cities. The fact that China has entered upon the granting of letters patent is undoubtedly of more importance than the invention.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 25, 1905.*

Motor-Car Engineers.—Under date of February 20, 1905, United States Consul Marshal Halstead, Birmingham, England, transmits the following extract from the Daily Post, of that city, of even date:

It is somewhat surprising that at present there are no examples of motor-car engines and mechanism in the equipment of the applied-science laboratories at Bournbrook. There are still a few people who seem to think that motor-car construction and design is not serious engineering work. Anyone who visited the great Olympic show must have obtained a different impression. The motor industry is now a highly specialized branch of the engineering profession, and, whatever has happened in the past, there can be no doubt that the manager of works which supply engines and gearing to the car builders will need to be a technically and scientifically trained engineer. I know of three or four past students of the university who are doing well in this work, and I was much interested to come across one at the show, who is now with Messrs. Thornycroft at Chiswick. While we were examining a neat self-lubricating steam motor-car engine, the inventor of the patent explained to us with some pride that the secret of his success was the sound scientific training received at one of the

London university colleges. I was much interested to notice that Birmingham seems to be the hub of the motor manufacturers' district, and it therefore seems to me that the subject of special lectures on motor-car construction might well be considered by the council of the university.

Bed-feather Trade of Hungary.—Under date of February 24, 1905, United States Consul-General Frank Dyer Chester, Budapest, Hungary, transmits the following:

Hungarian white goose down and feathers are in season at the end of June, August, and October. Four bed-feather markets a year are held in Budapest, corresponding to these four seasons, e. g., in 1905, March 10, May 26, August 18, and November 3. At each market about 3,000 to 3,500 bales of 100 kilograms each (220 pounds) of bed feathers are placed on sale. The following is a list of Budapest and Zagreb (Agran) down and feather dealers:

Budapest, registered—Moritz Bloch, VII, Karoly korut 7; Ralph Kampl (comm.), VII, Dohány utca 1/a; Menczel & Schwarcz, VIII, Nepszinhaz utca 59; R. Muller, VIII, Nepszinhaz utca 24; Armin Popper, VIII, Wesselenyi utca 28; Joseph Stadlers successor, VIII, Dohany utca 12. Unregistered—Philip Bauml & Son, VI, Vaczi korut 15; Moritz Klopfer, VII, Dob utca 11; Isidore Saxel, VII, Dob utca 3; Mrs. Paul Reichfeld, VIII, Erdelyi utca 17; Ignatz Schuck, VII, István tér 17; Paul Schlesinger (mattress maker), IV, Karoly utca 14; Zagreb (Agran), Croatia, Bernard Kauders Jelacicv trg 2, Zagreb (Croatia), Hungary.

Demand for Cotton-Seed Meal.—An established importer of Magdeburg has requested me to place him in touch with two or three firms exporting Texas cotton-seed meal with a view of establishing an agency in Magdeburg. There are occasional shipments coming into this district through business channels already established, but I think the amount could be materially increased by a resident agent coming in direct contact with the consumers and creating a larger demand. Any matter sent to this consulate relative to the subject will be delivered to the proper party.—*Frank S. Hannah, Consul, Magdeburg, Germany, March 1, 1905.*

Technical Schools in Sonneberg, Germany.—Though the average American is far ahead of the German or Frenchman in inventive talent, he is handicapped by lack of technical knowledge. The little town of Sonneberg, in Germany, for instance, has an industrial school which has been in existence for twenty years. This school gives instruction in drawing, painting, modeling, turning in wood and ivory, wood carving, geometry, and arithmetic. The principal object is to train young people for the manufacture of toys and ceramic ware, which are the chief industries of the district. The school has 74 stu-

dents, and the cost of tuition is but 50 marks (\$12.90) per year. Additional technical schools, giving instruction in glass blowing, painting on porcelain, drawing, modeling, and carving are located in Schlakau, Limbach, Lauscha, and Rauenstein, which are quite small places in the Sonneberg district. The town of Sonneberg has also a commercial school attended by 151 pupils, who are instructed in commercial knowledge, political economy, the English, French, and Spanish languages, bookkeeping, stenography and typewriting, calligraphy, and arithmetic. The efficient training given by such schools makes Germany capable of successfully competing with countries possessing superior natural advantages, and accounts in part for the wonderful rise of Germany's export trade and merchant marine.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 25, 1905.*

Educational Gifts in Quebec.—It is announced that Sir William McDonald, the millionaire tobacco manufacturer and educational philanthropist, of Montreal, has informed the Protestant council of public instruction of the Province of Quebec that he has a scheme which is said to involve the expenditure of \$7,000,000. In addition to an agricultural college, which he will build at St. Anne De Bellevue, Sir William proposes to endow a normal school in close proximity to the agricultural college for the training of teachers. Two buildings for male and female students will be erected at which the students may live.—*W. R. Hollonray, Consul-General, Halifax, Nova Scotia, March 15, 1905.*

American Brewing Machinery for Germany.—Messrs. Levy & Kleine, Kleber Staden II, Strassburg, wish to be placed in communication with manufacturers of brewing machinery in the United States, with a view to selling the same in Germany, where they claim the prospects are bright. The machinery which they have principally in mind is labeling, bottling, and washing machines.—*Joseph I. Brittain, Consul, Kehl, Germany, February 23, 1905.*

American Enterprise in Canada.—B. E. Kingman, New York City, and F. Sayles, Providence, R. I., are interested in a project to develop the water power of Grand Falls, New Brunswick, including the manufacture of ferromanganese at the falls, and the operation of pulp, paper, and saw mills, the operation of an international railway by electricity, and the transmission of electricity to be sold for use in lighting and manufacturing as far as St. John. The project will involve an outlay of from \$3,000,000 to \$4,000,000.

The contract for the big coal and ore docks at Port Arthur, Ontario, has been awarded to the Barnett Record Company, Minneapolis, Minn. The docks, which will handle ore from Atikokan iron deposits in Ontario, will be equipped with the most modern handling machinery and will have a capacity of 300,000 tons.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 9, 1905.*

Potash Industry of Germany.—There is unusual activity in the potash industry in this province at present, the mild weather permitting the farmers to purchase and use their supplies earlier than usual this season, and each year the amount of potash used as fertilizer increases steadily. This is not only evident in Germany, but the exports to the United States are increasing to such an extent that at present 30 new potash works are in course of construction, 9 of which will begin operation in the present year. The center of this great industry of Germany is the celebrated Stassfurt mines near Magdeburg.—*Frank S. Hannah, Consul, Magdeburg, Germany, February 18, 1905.*

Spanish Trade with Morocco.—The leading manufacturers of Barcelona and the province of Catalonia are organizing a Spanish commercial expedition to the interior of Morocco. The expedition is led by a Spanish merchant intimately acquainted with the trade and customs of Morocco. The visitors will carry with them samples of their products and stocks of goods for immediate delivery. Points to be visited are Tangier, Larache, Alcazalquivir, Mequinez, Rabat, and Fez, and at the latter place a stay of one month is contemplated. The whole trip will take three months.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 28, 1905.*

Cuban Bean Imports.—American brokers are preparing to supply the Cuban market with white marrow and red kidney beans, and Louis G. Smith & Co., of Mercaderes 38, Habana, are about to import from Europe brands that the United States growers can not supply.—*Frank Dyer Chester, Consul-General, Budapest, Hungary, March 1, 1905.*

Canadian Navy and Dockyards.—It is announced that the Imperial Government has agreed that the Dominion authorities shall have control of the dockyards at Halifax and Esquimalt, which will be made the bases of the Canadian navy soon to be organized. The details of the transfer have not yet been completed, but it is likely they will be by July 1, when the land defenses are to be transferred to the Dominion.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 9, 1905.*

American Alcohol in Austria.—The Prague Daily and German papers note the danger threatening the Austrian export trade in alcohol in the entry of several thousand barrels of American alcohol recently via Hamburg. Its introduction was an experimental measure, but proved very successful, and has led to the sale of large quantities.—*Richard Guenther, Consul-General, Frankfurt, Germany, February 27, 1905.*

Persian Gulf Trade.—According to the German consul at Bushire, Persia, the imports of Bander Abbas, on the Persian Gulf, in the fiscal year ended March 21, 1904, were valued at \$1,690,000, and the exports were valued at \$454,000. The imports consist chiefly of cotton textiles and yarns, sugar, tea, and metallic ware, of which \$600,000 worth were from Great Britain; \$634,000 worth were from the British East Indies, about \$210,000 worth from France, and the remainder was furnished by Austria-Hungary, China, the Dutch Indies, Russia, Belgium, and Japan. Four-fifths of the exports go to British East Indies, and are mainly almonds, asafetida, raisins, wool, opium, and Persian carpets. The trade is in the hands of Persian and Indian firms, and the imported goods go to southeastern Persia and western Afghanistan.—*Richard Guenther, Consul-General, Frankfurt, Germany, March 4, 1905.*

Georgian Bay Canal.—The Georgian Bay Canal survey has been completed past the village of Bryson, Quebec. The method followed has been to run a snowplow across the river to remove the snow down to the ice at distances of about 50 feet. Along this track holes were made through the ice at intervals of 25 feet and the depth of water measured. If over 20 feet of water was found nothing further was required, as 20 feet is the proposed depth of the waterway. If shallower water was found borings were made to the depth of 20 feet, or until rock was struck, to ascertain the character of the bottom. A record of all soundings and borings is kept, and thus the entire bed of the stream is mapped in sections of 50 by 25 feet.—*W. R. Holloway, Consul-General, Halifax, Nova Scotia, March 9, 1905.*

Fraudulent Declaration of Goods Imported into Germany.—The Frankfurter Zeitung of March 2 contains correspondence from Mannheim, stating that, according to a public communication from the chief custom-house at Mannheim, Jacob J. Vis, director of the stock company "Fouragehandel vorheen H. C. de la Bey," Amsterdam, must pay an additional duty of 19,700 marks (\$4,700) and a fine of 78,000 marks (\$18,762) for declaring a shipment of 5,000 tons of adul-

terated bran as pure bran, which latter is free of duty. The greater part of the bran consisted of coffee husks, which are dutiable. The 5,000 tons of bran were confiscated at Mannheim, and will be sold at public auction, provided Mr. Vis. does not pay within twenty-one days.—*Richard Guenther, Consul-General, Frankfort, Germany, March 4, 1905.*

International Trade with the Island of Margarita.—Under date of April 7, 1905, Acting Secretary of State Adee transmits the following text of a telegram, dated April 6, from the American minister at Caracas, Venezuela:

Presidential decree yesterday abolished all three grades Venezuelan consulates ad honorem, and declared Pampator sole port Isle of Margarita for international commerce.

Technical Schools in Prussia.—On March 5, while the appropriation bill for educational purposes was under discussion in the Prussian House of Representatives, a member complained of the crowding of technical academies of the State by foreigners. The minister of public instruction, in replying to this and other questions, stated that "there are but 627 foreign students in the four technical academies of Prussia, and that the foreign applicants for admission to these State institutions must be as far advanced in school education as is required of Germans upon their entry." The minister promised that the science of iron and steel manufacture will receive in future greater consideration in the plan of instruction of the technical schools. He also thanked the donors of the \$52,000 for the establishment of an institute for teaching the science of "working in iron" at Aix-la-Chapelle, Germany.—*Richard Guenther, Consul-General, Frankfort, Germany, March 6, 1905.*

American Enterprises in Canada.—Under date of March 22, 1905, United States Consul Howard D. Van Sant, Guelph, Ontario, reports as follows:

Last week a representative of a large glue company of Chicago was here making definite arrangements for the purchase of land along the Speed River, south of the main part of this city, for the site of a branch glue factory to cost about \$75,000, and to employ 75 hands. A promoter, ex-Congressman Haines, of New York, is here making arrangements for the building of an electric railway, connecting Guelph with Galt and Hamilton, to cost about \$1,000,000. The franchises from the respective cities have been secured. The chief obstacle in the way at present appears to be a condition in the contract that the road to Guelph from Galt shall be completed by December, 1906.

Trade-Marks in Turkey.—A German trade paper reports that the Turkish Government has issued an order to its customs authorities not to admit any foreign goods which bear the mark or design of a star. It is supposed that the reason for this is that the representation of a star is a part of the Turkish coat of arms.—*Richard Guenther, Consul-General, Frankfort, Germany, March 7, 1905.*

Demand for Paper and Ceiling Squares.—Under date of March 9, 1905, United States Consul-General Holloway, Halifax, Nova Scotia, reports that the Canadian Manufacturer of Toronto is in receipt of a request from an important concern in Australia for the name and address of Canadian makers of paper and of ceiling squares described as being composed of paper milling glued and pressed to wood backing.

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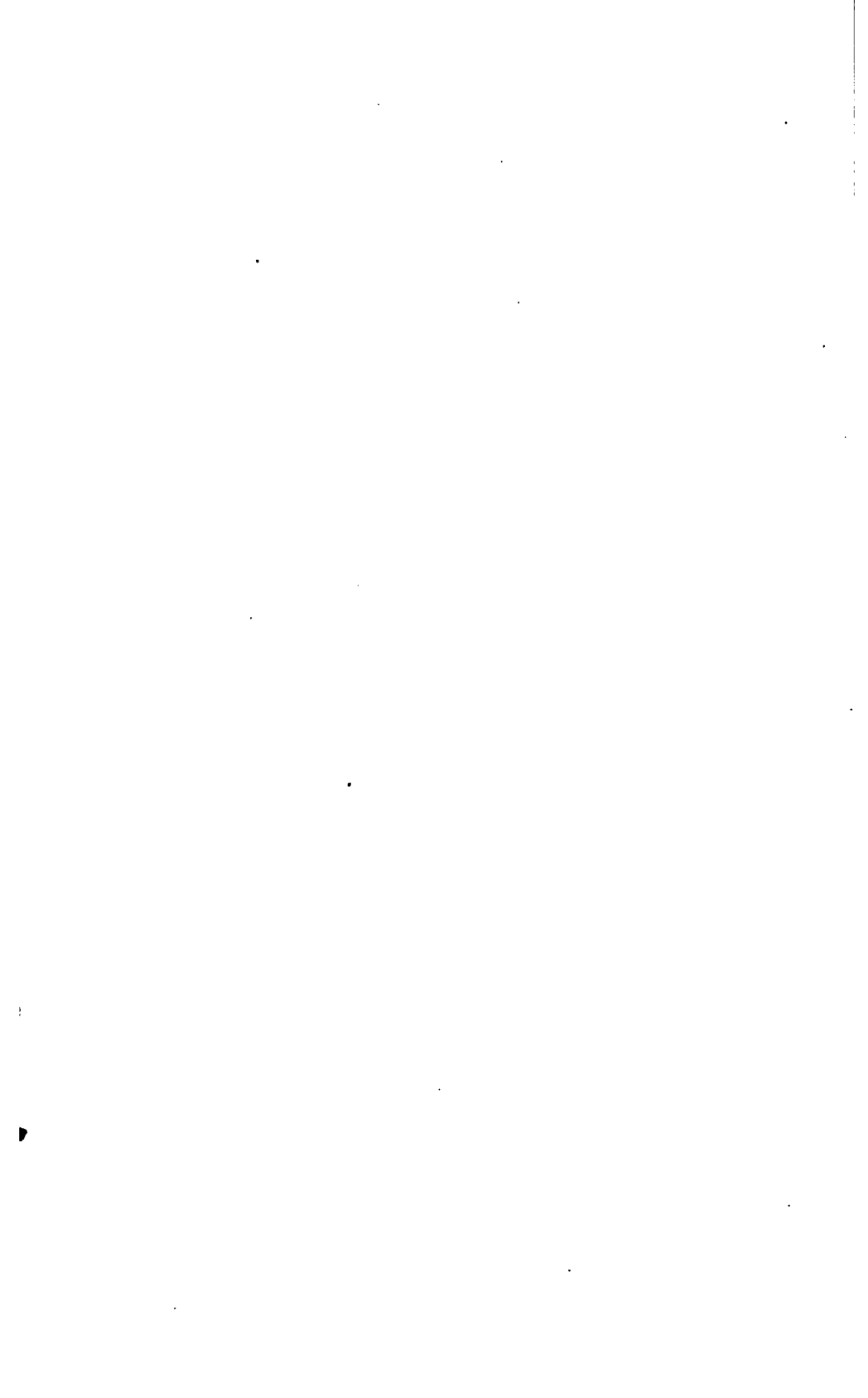
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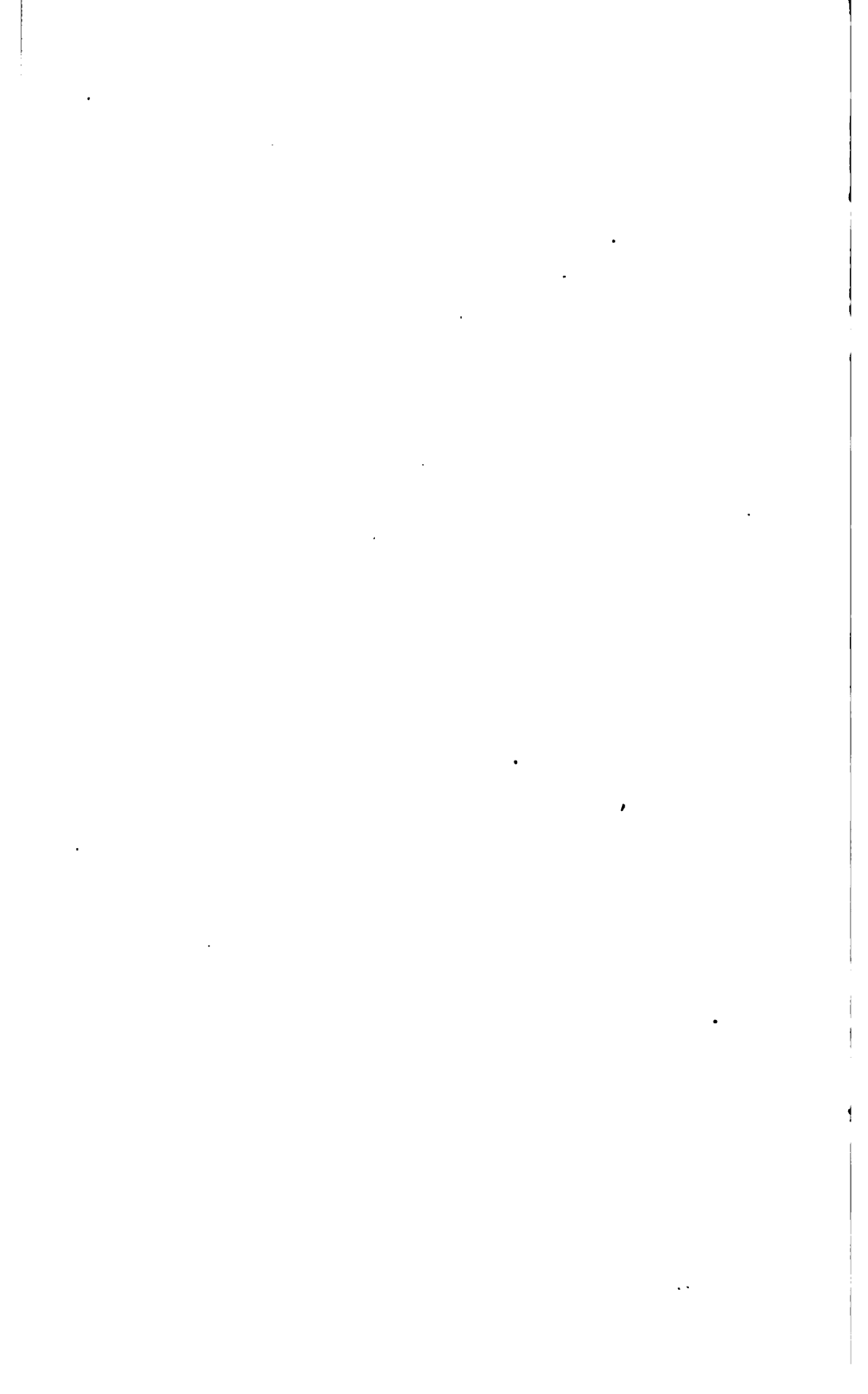
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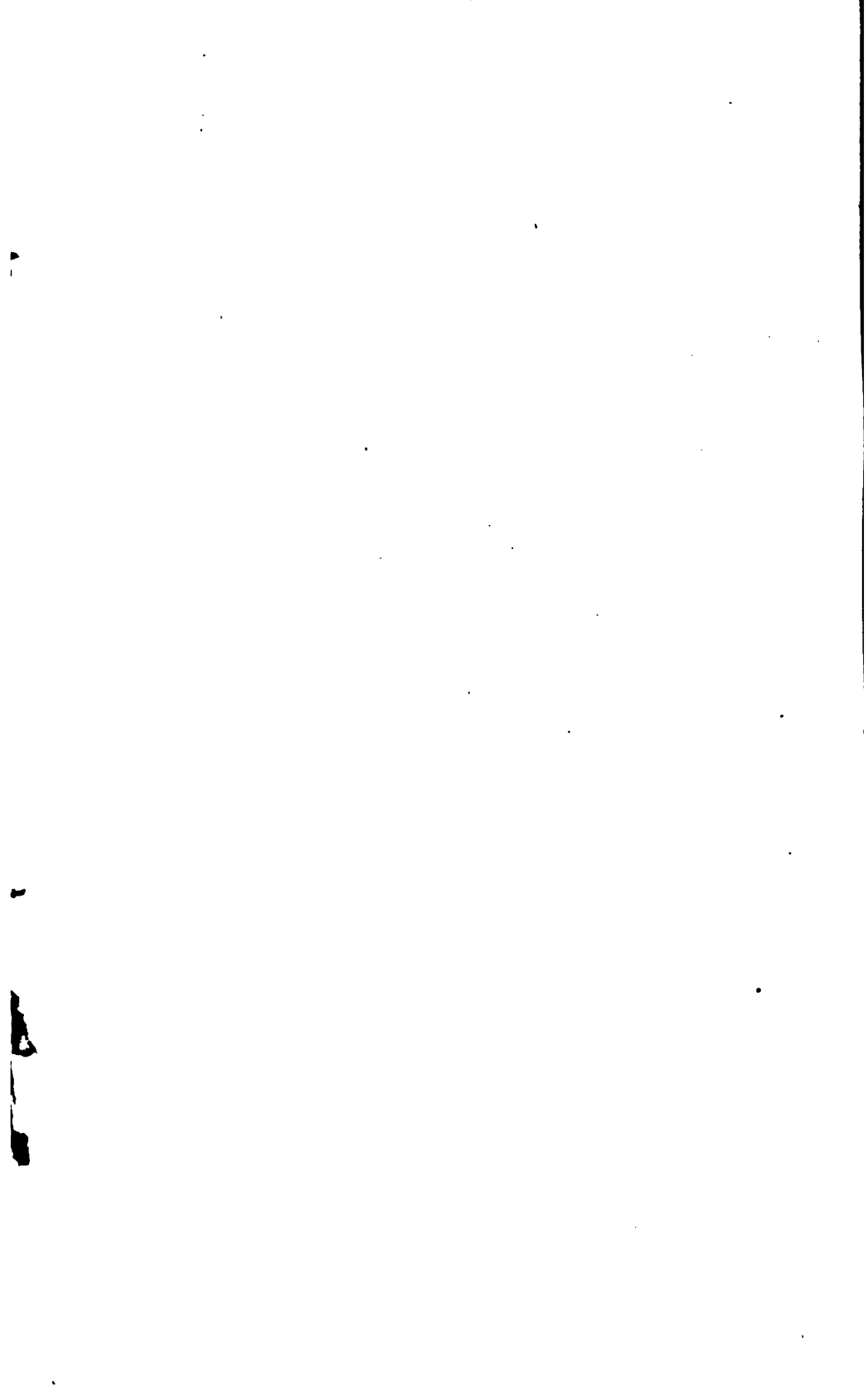
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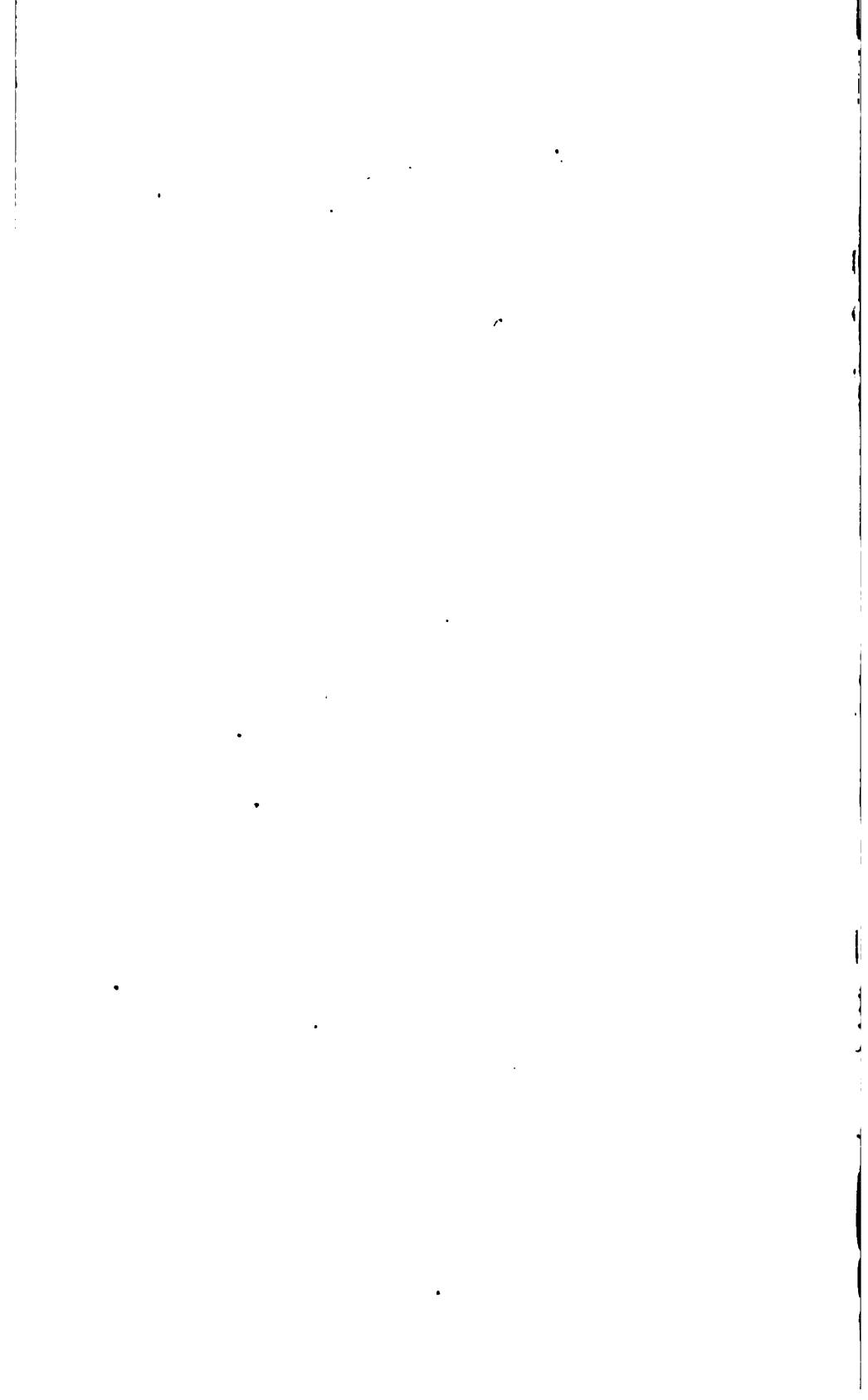
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BUREAU OF STATISTICS

No. 295

MONTHLY CONSULAR REPORTS

APRIL, 1905



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1905

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF COMMERCE AND LABOR.

The publications of the Bureau of Statistics, Department of Commerce and Labor, are as follows:

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- ANNUAL STATISTICAL ABSTRACT OF THE UNITED STATES.
- MONTHLY ADVANCE SHEETS FROM THE SUMMARY OF COMMERCE AND FINANCE.
- MONTHLY SUMMARY OF COMMERCE AND FINANCE OF THE UNITED STATES.
- MONTHLY BULLETIN OF EXPORTS OF DOMESTIC BREAKFASTS, PROVISIONS, COTTON, AND MINERAL OILS.
- MONTHLY IMPORTS AND EXPORTS OF THE UNITED STATES (total values, single sheet).

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- SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

The above consular reports were, until July, 1905, issued by the Bureau of Foreign Commerce of the State Department; since that date they have been issued by the Bureau of Statistics of the Department of Commerce and Labor, with which the Bureau of Foreign Commerce of the State Department has been consolidated. For details of these publications, the subjects of which the special reports treat, and the reports remaining for distribution, address "Chief, Bureau of Statistics, Department of Commerce and Labor, Washington, D. C."

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- Vol. 2 (1890 and 1891).—European Emigration; Olive Culture in the Alpes Maritimes; Beet-Sugar Industry; Flax Cultivation in Foreign Countries.
- Vol. 3 (1891 and 1892).—Coal and Coal Consumption in Spanish America.
- Vol. 10 (1894).—Extension of Markets for American Flour. (New edition, 1897.)
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- Vol. 14 (1898).—The Drug Trade in Foreign Countries.
- Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe; Rabbits and Rabbit Furs in Europe; Cultivation of Ham in Foreign Countries.
- Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.
- Vol. 18 (1900).—Merchant Marine of Foreign Countries.
- Vol. 20 (1900).—Part I. Book Cloth in Foreign Countries; Market for Ready-Made Clothing in Latin America; Foreign Imports of American Tobacco; Cigar and Cigarette Industry in Latin America.
- Part II. School Gardens in Europe. Part III. The Slave Trade in Foreign Countries.
- Vol. 21 (1900).—Part I. Foreign Markets for American Coal. Part II. Vehicle Industry in Europe.
- Vol. 22 (1900 and 1901).—Part I. Acetic Acid in Foreign Countries. Part II. Mineral-Water Industry.
- Vol. 23 (1901).—Part I. Gas and Oil Engines in Foreign Countries. Part II. Silver and Plated Ware in Foreign Countries.
- Vol. 24 (1902).—Creameries in Foreign Countries.
- Vol. 25 (1902).—Stored Goods as Collateral for Loans.
- Vol. 26 (1903).—Briquettes as Fuel in Foreign Countries.
- Vol. 27 (1903).—Markets for Agricultural Implements and Vehicles in Foreign Countries.
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- Vol. 29 (1904).—Macaroni Wheat in Foreign Markets.
- Vol. 30 (1904).—Emigration to the United States.
- Vol. 31 (1904).—Windmills in Foreign Countries.
- Vol. 32 (1904).—Foreign Markets for American Prudis.
- Vol. 33 (1905).—Industrial Education and Industrial Conditions in Germany.
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- Vol. 35 (1905).—Warehouses for Storage of Merchandise in Transit or in Bond.

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VALUES OF FOREIGN COINS AND CURRENCIES.

[As given by the Director of the United States Mint and published by the Secretary of the Treasury, April 1, 1906.]

COUNTRIES WITH FIXED CURRENCIES.

Countries.	Monetary unit.	Value in U.S. gold, 1906.	Coins.
Argentina.....	Peso.....	\$0.96, 5	Gold—argentine (\$4.82, 4) and $\frac{1}{2}$ argentine; silver—peso and divisions.
Austria-Hungary.....	Crown.....	.20, 3	Gold—20 crowns (\$4.06, 2) and 10 crowns.
Belgium.....	Franc.....	.19, 3	Gold—10 and 20 francs; silver—5 francs.
Brazil.....	Milreis.....	.54, 6	Gold—5, 10, and 20 milreis; silver— $\frac{1}{2}$, 1, and 2 milreis.
British N. A. (except Newfoundland).....	Dollar.....	1.00	
.....do.....	.....do.....	1.00	
Chile.....	Peso.....	.36, 5	Gold—escudo (\$1.825), doubloon (\$3.65), and con-dor (\$7.30); silver—peso and divisions.
Colombia.....	Dollar.....	1.00	Gold—condor (\$9.647) and double condor; silver—peso.
Costa Rica.....	Colon.....	.46, 5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centimos.
Cuba.....	Peso.....	.91	Gold—doubloon (\$5.01, 7); silver—peso (60 cents).
Denmark.....	Crown.....	.26, 8	Gold—10 and 20 crowns.
Ecuador.....	Sucre.....	.48, 7	Gold—10 sucres (\$4.8665); silver—sucre and divi-sions.
Egypt.....	Pound (100 pia- sters).....	4.94, 3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	Mark.....	.19, 3	Gold—10 and 20 marks (\$1.98 and \$3.85, 9).
France.....	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany.....	Mark.....	.23, 8	Gold—5, 10, and 20 marks.
Great Britain.....	Pound sterling..	4.86, 6 $\frac{1}{2}$	Gold—sovereign (pound sterling) and half sover-eign.
Greece.....	Drachma.....	.19, 3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.....	Gourde.....	.96, 5	Silver—gourde.
India.....	Pound sterling a.	4.86, 6 $\frac{1}{2}$	Gold—sovereign (pound sterling)? silver—rupee and divisions.
Italy.....	Lira.....	.19, 3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan.....	Yen.....	.49, 8	Gold—1, 2, 5, 10, and 20 yen.
Liberia.....	Dollar.....	1.00	
Netherlands.....	Florin.....	.40, 2	Gold—10 florins; silver— $\frac{1}{2}$, 1, and 2 $\frac{1}{2}$ florins.
Newfoundland.....	Dollar.....	1.01, 4	Gold—\$2 (\$2.02, 7).
Panama.....	Balboa.....	1.00	Gold—1, 2 $\frac{1}{2}$, 5, 10, and 20 balboas; silver—peso and divisions.
Peru.....	Sol.....	.48, 7	Gold—libra (\$4.8665); silver—sol and divisions.
Philippine Islands.....	Peso.....	.50	Silver—peso, 50, 20, and 10 centavos.
Portugal.....	Milreis.....	1.08	Gold—1, 2, 5, and 10 milreis.
Russia.....	Ruble.....	.51, 5	Gold—imperial (\$7.718) and $\frac{1}{2}$ imperial (\$3.859); silver— $\frac{1}{2}$, $\frac{1}{4}$, and 1 ruble.
Spain.....	Peseta.....	.19, 3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.....	Crown.....	.26, 8	Gold—10 and 20 crowns.
Switzerland.....	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.....	Plaster.....	.04, 4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay.....	Peso.....	1.03, 4	Gold—peso; silver—peso and divisions.
Venezuela.....	Bolivar.....	.19, 3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

COUNTRIES WITH FLUCTUATING CURRENCIES. b

Country and monetary unit.	July 1, 1904.	Oct. 1, 1904.	Jan. 1, 1905.	Apr. 1, 1905.	Country and monetary unit.	July 1, 1904.	Oct. 1, 1904.	Jan. 1, 1905.	Apr. 1, 1905.
Bolivia:	Cts.	Cts.	Cts.	Cts.	China—Continued.	Cts.	Cts.	Cts.	Cts.
Silver boliviano.....	40.3	42.2	43.1	43.9	Nankin tael.....	65.4	68.4	69.9	71.2
Central America:					Ningpo tael.....	68.5	66.5	67.9	69.1
Silver peso.....	40.3	40.3	43.1	43.9	Nuchwang tael.....	62	64.8	66.8	67.4
China:					Peking tael.....	64.4	67.4	68.9	70.1
Amoy tael.....	66.1	69.1	70.7	71.9	Shanghai tael.....	60.3	68.1	64.5	65.7
Canton tael.....	65.9	68.9	70.5	71.7	Swatow tael.....	61	63.9	65.3	66.4
Chifu tael.....	63.2	66.1	67.6	68.8	Takau tael.....	66.5	69.6	71.1	72.4
Chinkiang tael.....	64.5	67.5	69.0	70.3	Tientsin tael.....	64	67	68.5	69.7
Fuchau tael.....	61.1	63.9	65.4	66.5	Mexico:				
Hakwan (customs) tael.....	67.2	70.3	71.9	73.2	Silver dollar d.....	43.8	45.8	46.8	47.7
Hankau tael.....	61.8	64.7	66.1	67.3	Persia:				
Hongkong tael.....	(c)	(c)	(c)	(c)	Silver kran.....	7.4	7.8	7.9	8.1

a The rupee, \$0.3244, 15 to the sovereign, constitutes the money of account.

b The coins of silver-standard countries are valued by their pure silver content, at the average market price of silver for the three months preceding the date of the circular issued by the United States Treasury Department.

c The "British dollar" has the same legal value as the Mexican dollar in Hongkong and Labuan.

d On and after May 1, 1906, the silver dollar will be valued at 49.8 cents.

